Pneumatic Assembly Tools

Cleco®

COOPER PowerTools

SP-1000-EN 0305 15M

ISO 9001

Quality System Certified

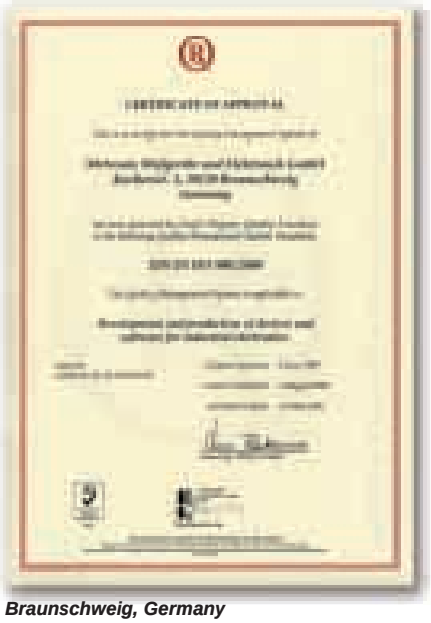
Cooper Power Tools Division has attained ISO 9001 Quality System Certification for seven of our facilities. The driving force behind the implementation of the Quality System is the commitment “to provide our customers with the **best value delivered** by offering only products and services **that meet or exceed their expectations**”.

Lexington, South Carolina

Dayton, Ohio

Hicksville, Ohio

Springfield, Ohio



Braunschweig, Germany

Westhausen, Germany

Ozoir-la-Ferrière, France

Model	Page
200427	25, 74
200428	25, 74
200429	25, 74
105PH554	67
105PH55Q	67
105PTHC254	66
105PTHC25Q	66
11PHL802	67
11PHL80Q	67
11PTHLC35Q	66
140PH45Q	67
140PTHC25Q	66
14BPA02Q	14
14BPA03Q	14
14BPA04Q	14
14BPA05Q	14
14BPA06Q	14
14PCA02Q	19
14PCA03Q	19
14PCA04Q	19
14PCA05Q	19
14PCA06Q	19
14PTA02Q	19
14PTA03Q	19
14PTA04Q	19
14PTA05Q	19
14PTA06Q	19
14PTA07Q	19
14PTA10Q	19
14PTA15Q	19
14PTS02Q	23
14PTS03Q	23
14PTS04Q	23
14PTS05Q	23
14RAA02AH2	34
14RAA02AH3	34
14RAA02AM2	34
14RAA03AH2	34
14RAA03AH3	34
14RAA03AL2	34
14RAA03AM2	34
14RAA04AM2	34
14RAA05AM2	34
14RAA06AH2	34
14RAA06AH3	34
14RAA07AH2	34
14RAA07AH3	34
14RAA09AH2	34
14RAA09AH3	34
14RAA11AH2	34
14RAA11AH3	34
14RAA12AH2	34
14RAA12AH3	34
14RAS03AM2	38
14RAS04AH2	38
14RAS05AM2	38
14RAS06AH3	38
14SCA02B	14
14SCA02Q	14
14SCA03B	14
14SCA03Q	14
14SCA04B	14
14SCA04Q	14
14SCA05B	14
14SCA05Q	14
14SCA06B	14
14SCA06Q	14
14SPA02B	14
14SPA02Q	14
14SPA03B	14
14SPA03Q	14
14SPA04B	14
14SPA04Q	14
14SPA05B	14
14SPA05Q	14
14SPA06B	14
14SPA06Q	14
14TCA02Q	18
14TCA03Q	18
14TCA04Q	18
14TCA05Q	18
14TCA06Q	18
14TTA02Q	18
14TTA03Q	18
14TTA04Q	18
14TTA05Q	18
14TTA06Q	18
14TTA07Q	18
14TTA10Q	18
14TTA15Q	18
14TTS02Q	23
14TTS03Q	23
14TTS04Q	23
14TTS05Q	23
15STH30Q	66
15STHF30Q	66
160PH456	67
160PTHC256	66
20PHL703	67
20PHL70Q	67
20PTHLC353	66
20PTHLC35Q	66
24RAA06AL3	35
24RAA07AL3	35
24RAA11AL3	35
24RAA12AM3	35
24RAA19AM3	35
24RAA23AM3	35
24RAS13AM3	38
24RTA20T2ED00	58
24RTA20T3EF00	58
24RTA20T4EK00	58
250PHF406	67
250PTHFC226	66
2RSA-10B	14
2RSA-10SB	14
30PHL70Q	67
30PTHLC35Q	66
34RAA08AL3	35
34RAA09D24	50
34RAA09F1MD00	44
34RAA11AL3	35
34RAA15AM3	35
34RAA16D24	50
34RAA16F1MD00	44
34RAA26AH3	35
34RAA28AH3	35
34RAA28D24	50
34RAA28F1MG00	44
34RAA33AX3	35
34RAA33D24	50
34RAA33F2MG00	44
34RAA37AX3	35
34RAA47AX3	35
34RAA47D24	50
34RAA47F2MG00	44
34RAA53D24	50
34RAA53F2MI00	44
34RAA53H3MGFM5	48
34RAA67D34	50
34RAA67F3MI00	44
34RAA67H3MIFMA	48
34RAA68AZ3	35
34RAA68AZ4	35
34RAA75AZ3	35
34RAA75AZ4	35
34RAA94D34	50
34RAA94F3ML00	44
34RAA94H3MLFMB	48
34RAS103D34	50
34RAS103F3ML00	44
34RAS103H3MOFMD	48
34RAS10D24	50
34RAS10F1MD00	44
34RAS11AL3	38
34RAS18D24	50
34RAS18F1MD00	44
34RAS28AH3	38
34RAS30D24	50
34RAS30F1MG00	44
34RAS36AX3	38
34RAS40D24	50
34RAS40F2MG00	44
34RAS52D24	50
34RAS52F2MI00	44
34RAS58D34	50
34RAS58F3MI0022	44
34RAS58H3MGFM5	48
34RAS73D34	50
34RAS73F3MI0059	44
34RAS73H3MJT30	48
34RCA30D1	46
34RCA30D3	46
34RCS29D1	46
34RCS29D3	46
35PHL703	67
35PTHL353	66
35RSA-10-3	21
35RSA-10Q	21
35RSA-20Q	21
35RSA-5-3	21
35RSA-5Q	21
35RSA-7Q	21
35RSAP-10Q	21
35RSAP-20Q	21
35RSAP-7Q	21
35RSAPT-10Q	21
35RSAPT-20Q	21
35RSAPT-5Q	21
35RSAPT-7Q	21
35RSATP-10-3	21
35RSATP-10Q	21
35RSATP-20Q	21
35RSATP-5-3	21
35RSATP-5Q	21
35RSATP-7Q	21
35STHF404	66
35STHF40Q	66
35STHFA404	66
35STHFA40Q	66
400PHF356	67
400PTHFC206	66
41NCR130H18	52
41NCR130H20	52
41NCR130H25	52
41NDR130H15	53
41NDR130H16	53
41NDR130H18	53
41NDR130H20	53
41NDR130H25	53
41NDR172H15	53
41NDR172H16	53
41NDR172H20	53
41NDR172H25	53
41NDR236H15	53
41NDR236H16	53
41NDR236H18	53
45NAB-3P-4	36
45RNAB-2-4	42
45RNAB-2P-4	36
45RNAB-2T-4	36
45RNAB-3-3	42
45RNAB-3P-4	36
45RNAB-3T-4	36
45RNAB-4-3	42
45RNAB-4T-4	36
45RNAB-6-3	42
45RNB-2T-4	38
45RNB-3P-4	38
45RNB-3T-4	38
45RNB-4T-4	38
55NAL-2T-4	37
55NAL-3P-4	37
55NAL-3T-4	37
55NAL-4P-4	37
55NAL-4T-4	37
55NL-2T-4	39
55NL-3T-4	39
55PHL604	67
55PHL60Q	67
55PTHLC354	66
55PTHLC35Q	66
55RNAL-2-4	42
55RNAL-2T-4	37
55RNAL-3-4	42
55RNAL-3P-4	37
55RNAL-3T-4	37
55RNAL-4-4	42
55RNAL-4P-4	37
55RNAL-4T-4	37
55RNAL-6T-4	37
55RNL-2T-4	38
55RNL-3T-4	38
55RNL-7T-4	38
5RSCH-10BQ	22
5RSCH-17	22
5RSCH-17Q	22
5RSCHPT-17Q	22
5RSCHTP-17Q	22
60NDR092HD24	53
60NDR092HD40	53
60NDR092HD48	53
60NDR092HD56	53
64TTK110D4	43
64TTK125D4	43
64TTK1260D8	43
64TTK140D4	43
64TTK1475D8	43
64TTK150D6	43
64TTK175D6	43
64TTK1820D8	43
64TTK1985D8	43
64TTK205D6	43
64TTK255D6	43
64TTK345D6	43
64TTK34D4	43
64TTK3850D12	43
64TTK425D6	43
64TTK44D4	43
64TTK55D4	43
64TTK570D6	43
64TTK640D8	43
64TTK750D8	43
64TTK75D4	43
64TTK90D4	43
64TTK930D8	43
64TTS110D4	42
64TTS125D4	42
64TTS1260D8	42
64TTS140D4	42
64TTS1475D8	42
64TTS150D6	42
64TTS175D6	42
64TTS1820D8	42
64TTS1985D8	42
64TTS205D6	42
64TTS255D6	42
64TTS345D6	42
64TTS34D4	42
64TTS3850D12	42
64TTS425D6	42
64TTS44D4	42
64TTS55D4	42
64TTS570D6	42
64TTS640D8	42
64TTS750D8	42
64TTS75D4	42
64TTS90D4	42
64TTS930D8	42
75NAL-2V-4	37
75NAL-2X-6	37
75NL-2V-4	39
75NL-2X-6	39
75NL-3V-4	39
75PHL504	67
75PHL50Q	67
75PTHLC354	66
75PTHLC35Q	66
75RNAL-2V-4	37
75RNAL-2X-6	37
75RNAL-3V-4	37
75RNAL-3X-6	37
75RNL-2X-6	38
75RNL-3V-4	38
75RNL-3X-6	38
7PHL90Q	67
7PTHLC35Q	66
7STHF55Q	66
7STHFA55Q	66
88RSA-5C-3	15
88RSA-5CQ	15
88RSA-7C-3	15
88RSA-7CQ	15
88RSAL-5C-3	15
88RSAL-5CQ	15
88RSAPT-2CQ	20
88RSAPT-5C-3	20
88RSAPT-5CQ	20
88RSAPT-7CQ	20
88RSATP-2C-3	20
88RSATP-2CQ	20
88RSATP-5C-3	20
88RSATP-5CQ	20
88RSATP-7C-3	20

Model Number Index

Model	Page
88RSATP-7CQ	20
88SA-5C-3	15
88SA-5CQ	15
88SA-7CQ	15
8RNO-10BQ	23
8RNO-20BQ	23
8RNO-7BQ	23
8RNP-10BQ	23
8RNP-20BQ	23
8RSA-10	15
8RSA-10BQ	15
8RSA-20	15
8RSA-20BQ	15
8RSA-30	15
8RSA-30BQ	15
8RSA-40	15
8RSA-40BQ	15
8RSA-5BQ	15
8RSA-7BQ	15
8RSAL-10BQ	15
8RSAL-20	15
8RSAL-20BQ	15
8RSAP-10BQ	20
8RSAP-20BQ	20
8RSAP-7BQ	20
8RSAPT-10BQ	20
8RSAPT-20BQ	20
8RSAPT-40BQ	20
8RSAPT-5B	20
8RSAPT-5BQ	20
8RSAPT-7BQ	20
8RSATP-10BQ	20
8RSATP-20BQ	20
8RSATP-30BQ	20
8RSATP-5BQ	20
8RSATP-7BQ	20
8RSCH-10BQ	22
8RSCH-20	22
8RSCH-20BQ	22
8RSCL-10BQ	22
8RSCL-20BQ	22
8RSCL-7BQ	22
8RSCO-20BQ	22
8SA-10	15
8SA-10BQ	15
8SA-20BQ	15
8SA-7BQ	15
BL-2A	25, 74
BL-4A	25, 74
BL-6A	74
BL-8A	74
BLL-6A	74
BM-13A	74
BM-18A	74
BM-25A	74
BM-35A	74
BM-45A	74
BML-13A	74
CPBA-12-AH	28
CPBA-18	28
CPBA-18-AH	28
CPBA-30	28
CPBA-30-AH	28
CSBA-12-AH	28
CSBA-18	28
CSBA-18-AH	28
CSBA-24	28
CSBA-30	28
CSBA-30-AH	28
H16NDR09H15	53
H16NDR09H20	53
H16NR13H15	52
H16NR13H16	52
H16NR13H18	52
H16NR13H20	52
H16NR13H25	52
H16NR25H15	52
H16NR25H16	52
H16NR25H20	52
H16NR25H25	52
H30NDR08H15	53
H30NDR08H16	53
H30NDR08H18	53
H30NDR08H20	53
H30NDR08H25	53
H30NR12H15	52
H30NR12H16	52
H30NR12H18	52
H30NR12H20	52
H30NR12H25	52
H30NR12H29	52
H30NR20H15	52
H30NR20H16	52
H30NR20H18	52
H30NR20H20	52
H30NR20H25	52
H30NR20H29	52
H30NR20H37	52
MP-15	26
MP-2B	26
P-15	26
P-2B	26
PBA-12	29
PBA-12-AH	29
PBA-12-WM	29
PBA-18	29
PBA-18-18-AH	29
PBA-18-AH	29
PBA-24	29
PBA-24-AH	29
PBA-30-AH	29
PBA-30-WM	29
PL-12A	25, 74
SBA-12	29
SBA-12-AH	29
SBA-18	29
SBA-18-AH	29
SBA-24-AH	29
SBA-30-AH	29
SBA-30-WM	29
TA4-05B-1	26
TA4-05B-2	26
TA4-05F-1	26
TA4-05F-2	26
TA4-10B-1	26
TA4-10B-2	26
TA4-25F-1	26
TA4-25F-2	26
TCI-150FRN	80
TCI-150RA-3/8”	80
TCM-75R	80
TVP-110-15-D	26, 62
TVP-110-15-P	26, 62
TVP-110-15-S	26, 62
TVP-110-15-U	26, 62
TVP-110-30-D	26, 62
TVP-110-30-P	26, 62
TVP-110-30-S	26, 62
TVP-110-30-U	26, 62
W-2109-8	71
W-2120-12	71
WL-200-3	70
WL-200-4	70
WL-200-BQ	70
WP-200-3	70
WP-200-4	70
WP-200-BQ	70
WP-2049-6	70
WP-2050-6	70
WP-2059-6	70
WP-2059-8	70
WP-2059-8-6E	70
WP-2060B-6	70
WP-2060B-8	70
WP-2109B-8	70
WP-2110B-8	70
WP-455-4P	70
WP-455-4R	70
WPS-2109B	70
WS-2119	71
WT-2109-8	71
WT-2109-8-6E	71
WT-2110-8	71
WT-2119-12	71
WT-2120-12	71
WTS-2109	71
WTS-2119	71
WTS-2120	71

Warranty

Cooper warrants products and parts sold by it, insofar as they are of its own manufacture, against defects of material and workmanship, under normal use and service in accordance with its written instructions, recommendations, and ratings for installation, operation, maintenance, and service of products, for a period of **ONE YEAR FROM THE DATE OF INITIAL USE, BUT IN NO EVENT SHALL THE WARRANTY EXCEED 24 MONTHS FROM DATE OF DELIVERY TO DISTRIBUTOR.** Proof of Purchase with shipment date must be furnished by the user to validate the warranty. This warranty applies only to products manufactured by Cooper and specifically excludes products manufactured by others. Products not manufactured by Cooper are warranted only to the extent and in the manner warranted to Cooper by the manufacturer and then only to the extent Cooper is able to enforce such warranty. Cooper's warranty with respect to products manufactured by it is limited to the repair or replacement, as Cooper may elect, of any defective part regarding which the Distributor has given 5 days written notice from the discovery of such defect. Installation and transportation costs are not included. Cooper shall have the option of requiring the return to it of the defective material, transportation prepaid, for inspection. No allowance will be made for repairs without Cooper's approval. **COOPER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, AND HEREBY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Lubrication Products

Cooper Power Tools' products are classified as non-hazardous manufactured items, defined in the OSHA 1910.1200 Hazard Communication Standard as "Articles". These products, under conditions of normal use, do not release or cause exposure to a hazardous chemical.

Under normal conditions of use, lubrication products sold separately for or used within these tools should not cause an exposure hazard. Refer to the Material Safety Data Sheet (M.S.D.S.) for Safety and Disposal Information. M.S.D.S. sheets are available upon request from Cooper Power Tools.

Cooper is also aware of, and complies with, the provisions of section 611 amendments to the Clean Air Act of 1990. No ozone depleting chemicals have been used in the manufacture of our products.

If you resell or distribute these products, you have the responsibility for ensuring that the Material Safety Data Sheets are provided to the purchaser.

Proper lubrication is essential to the economical operation of pneumatic and electric tools. Cooper Power Tools perform better and their life is extended by using the recommended lubricants. All lubricants that are listed in the accessory section of this catalog have undergone extensive testing and are recommended for use with Cooper Power Tools products.

Fastener Selection

The suggested fasteners listed in this catalog are determined by matching a tool's maximum rated load to Society of Automotive Engineers (SAE) Grade 5 and International Organization of Standardization (ISO) Grade 9.8 fasteners. The torque capabilities for SAE Grade 5 fasteners are from SAE Manual, SAE J429 (Mechanical and Material Requirement for Externally Threaded Fasteners). The torque capabilities for ISO Grade 9.8 fasteners are from ISO 898-1 (Mechanical Properties of Fasteners). All values selected are based on lubricated fasteners.

The suggested fasteners listed in this catalog are advisory only, and Cooper Power Tools recommends that you further consult other technical references before final tool selection. Reliance on the accuracy of this catalog data for any purpose by anyone is at the sole risk of that person. Cooper Power Tools is not responsible for any loss, claim, or damage arising from improper tool selection.

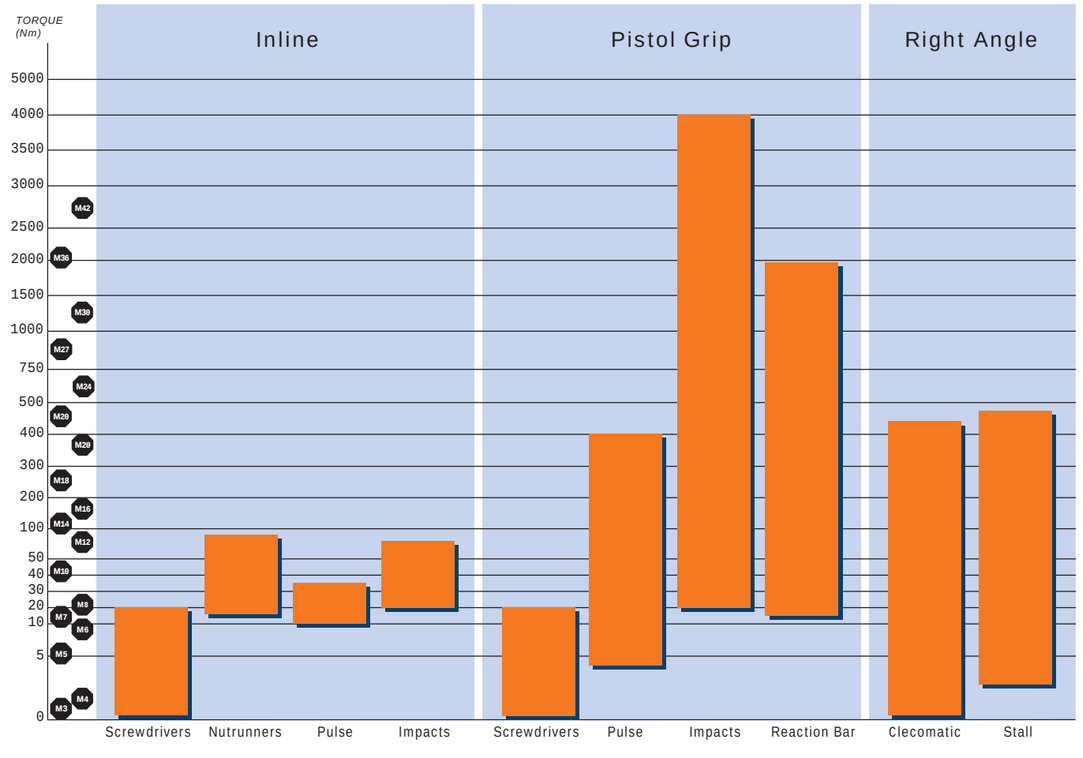
The torque values listed under the headings "TORQUE" are tested on an ISO 5393 soft joint rate test fixture unless otherwise stated by a special note.

Cleco®

The Cleco family of tools is one of the most diverse in the portable tool industry. With a broad selection of clutches and motors, this line of tools covers a wide range of torque at several speeds. Coupled with a diverse line of attachments and throttles, these tools are suitable for an indefinite number of applications.

Tools that perform

Improving production rates and decreasing costs are critical to the success of today's manufacturer. Cleco assembly tools have been specially designed to run down the broadest range of threaded fasteners, while providing accurate torque. Whether an application is a "soft" or "hard" joint, these tools are fast, consistent and reliable. When it comes to performance and reliability, there is no doubt as to why manufacturers around the world have come to rely on Cleco tools.



Tools of the highest quality

When we say our tools are built well, we really mean it. Cooper Power Tools manufacturing processes are ISO 9001 certified ... that means the Cleco brand is manufactured to the highest standard.

Tools that are flexible

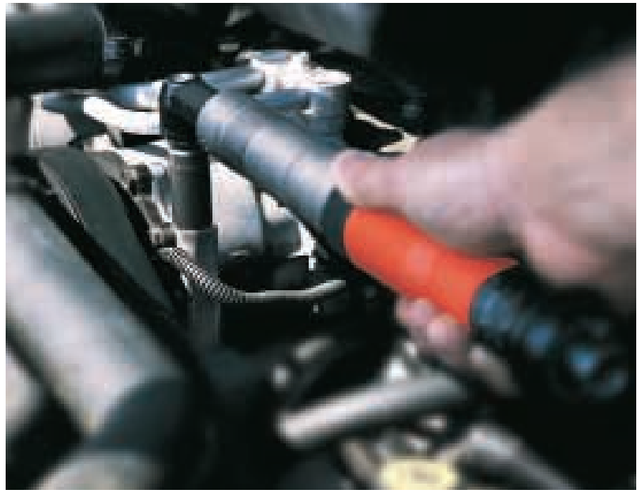
Many of the inline and pistol grip screwdrivers and nutsetters are equipped with an array of quick-change chucks, slip chucks and square drivers. Likewise, many of the angle head tools are equipped with optional square drive sizes. Bit and finder combinations, insert bit holders, socket adapters and many other accessories are available.

Tools that work with the operator

It is simple...give an operator a tool that is comfortable to use and the operator will work better. That is why the science of human engineering is integral in the design of every Cleco tool. The weight and shape of a particular tool are carefully designed to maximize control, ease of handling and tool balance. Special attention has been placed on housing grips. Housings are shaped to fit hand contours, and many have additional comfort grips to isolate the operator from temperature and vibration.

Tools that run quietly

Special attention is given to the design of the exhaust system of every tool. The motor noise is efficiently muffled to insure that the user will have the most quiet working conditions possible.



Tool Certification

We now offer in-house certification service for all of our assembly tools. Standard turnaround time is five (5) days from receipt of tool. Let our trained technicians repair your tools. Contact your local Cleco representative.

Cleco®

A tradition of quality is built into every screwdriver.

Cleco screwdrivers have long been recognized as the assembly tool standard against which all other brands are measured. With over 100 years of precision manufacturing experience built into each tool, Cleco screwdrivers provide users the ultimate in light and medium duty assembly tool performance.

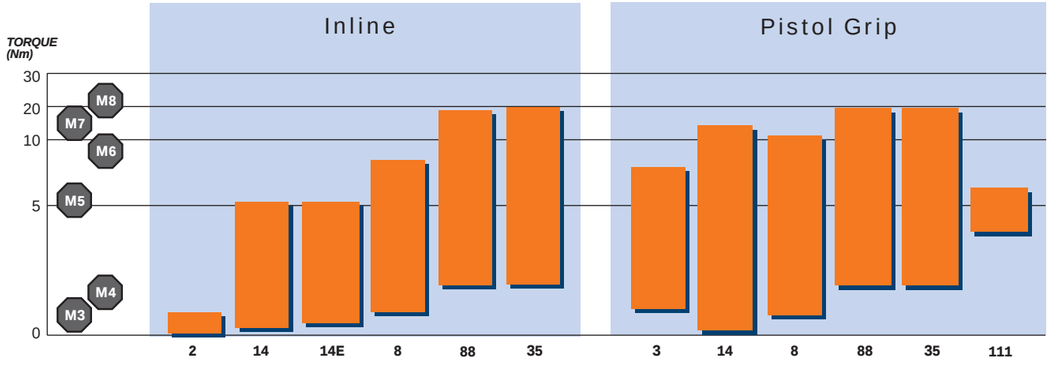
Designed to withstand the demanding requirements of today's modern, high repetition assembly lines, Cleco's direct no nonsense approach to overcoming even the most complicated application requirements, has made Cleco the world's #1 choice for assembly tool technology.

Cleco's long standing tradition of service to the customer has led us to develop an extensive line of screwdrivers with configurations to suit a broad range of applications. Options including multiple reversing methods, four different clutch styles, numerous handle alternatives, and a wide variety of accessories provide the building blocks for tool configurations designed to meet our customers' unique assembly application requirements.

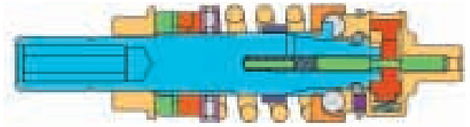
The Cleco 2 series of inline, Clecomatic screwdrivers offer dependable repetitive torque accuracy from 8 to .5 in.-lbs, ideal for miniature assemblies often found in extra light-duty electronics assembly using #0 to #5 screws. In the light to medium duty assembly tool market, the new ergonomically designed Cleco 14 series screwdrivers are the ultimate tools for an infinite range of applications including computer, electronics, and appliance assembly.

With a torque range of 7 to 180 in.-lbs (.8 to 20Nm), the 8 & 88 series Cleco screwdrivers cover the gamut of medium duty assembly applications ranging from lawn and garden equipment to small recreational vehicles, and even automotive. Capable of running down fasteners as large as 5/16 (M6), the Cleco 35 series screwdrivers are the true workhorses of the medium to heavy-duty screw assembly market. For applications requiring fast rundown, the Cleco 111 series screwdrivers turn at speeds of up to 4000 rpm, making these great tools for driving large wood screws and lag bolts.

Finally, the durable Cleco 3 series cordless screwdriver combines the versatility and portability of battery operation with the accuracy and repeatability of a torque shutoff clutch.



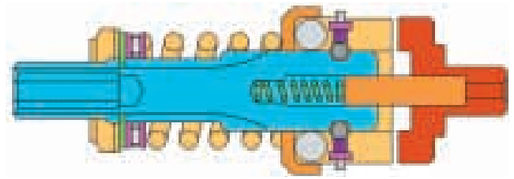
Choose the right Cleco clutch to match your application.



Clecomatic® Clutch

Clecomatic® Clutch

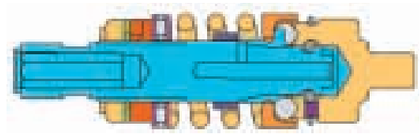
A Clecomatic tool starts when the bit is depressed and stops the instant preset torque is reached on the fastener. This feature and the patented clutch mechanism help assure consistent repetition of torque settings over a long period of time, which means better quality in the finished product. Since the tool does not dwell on the fastener, production can be boosted 10% or more. The short cycle time of a Clecomatic screwdriver results in less tool wear and fewer replacement parts. The life of a Clecomatic tool is up to five times longer than that of a lever-operated, ratcheting clutch screwdriver.



Rolling Impulse Clutch

Rolling Impulse Clutch

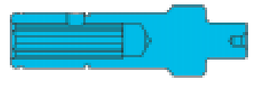
The Rolling Impulse series has two sets of clutch jaws: one set has positive jaw engagement or disengagement so that the bit rotates only when forward pressure is applied to the tool. The second set features large spherical detents and oversize steel balls for a smooth rolling action that insures maximum clutch face life, reduces shock loading and vibration, and improves torque control. All Rolling Impluse tools are lever- or trigger-operated.



Auto-Start Clutch

Auto-Start Clutch

Auto-Start screwdrivers feature a unique rolling action clutch. Like the Clecomatic screwdriver, Auto-Start screwdrivers start when the bit is depressed; the tools stops however, only when removed from the work. Excellent tools for triggerless applications, they provide an ideal alternative to the fully automatic Clecomatic screwdriver.



Stall Type

Stall Type

In the Stall type series, the driving spindle is coupled to the motor without an intermediate clutch. Torque output of this type tool may be controlled within fairly reasonable limits with an air pressure regulator. Stall type tools are also trigger operated.

CLUTCH SELECTION GUIDE FOR COMMON FASTENING APPLICATIONS

CLUTCH TYPE / APPLICATION	STANDARD BOLT & NUT	SHEET METAL SCREW	STANDARD BOLT & NUT	SELF-TAPPING SCREW	SELF-LOCKING NUT
Clecomatic®	EXCELLENT	FAIR	EXCELLENT	EXCELLENT Where seating torque exceeds tapping torque	EXCELLENT
Rolling Impulse	VERY GOOD	VERY GOOD	VERY GOOD	GOOD	GOOD
Auto-Start	VERY GOOD	VERY GOOD	VERY GOOD	GOOD	GOOD
Stall Drive	FAIR Under certain conditions	GOOD Under certain conditions	FAIR Under certain conditions	FAIR Under certain conditions	FAIR

Cleco®

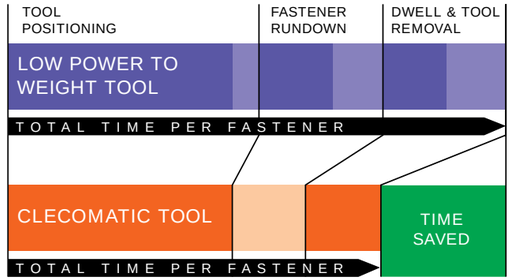
Clecomatic screwdrivers improve productivity, operator performance and finished product quality.

Every Clecomatic product feature is designed for higher production and increased productivity.

With high power-to-weight ratios, Clecomatic screwdrivers reduce cycle time from fastener to fastener, and operators prefer the lighter, more powerful tool. On many applications, a higher speed tool can be used for faster rundown and, because of the automatic shut-off feature, will provide consistent torque repeatability.

Clecomatic screwdrivers allow the operator to remove the tool from the fastener instantly after shut-off because no dwell time is needed to reach torque thereby increasing productivity by as much as 10%. The automatic stop feature also prevents unnecessary bit rotation and extends bit life up to 25 times or longer than the average life of bits used in ratcheting tools.

Other benefits provided by quality Clecomatic screwdrivers are lower scrap, improved product quality, reduced warranty claims and costly rework.



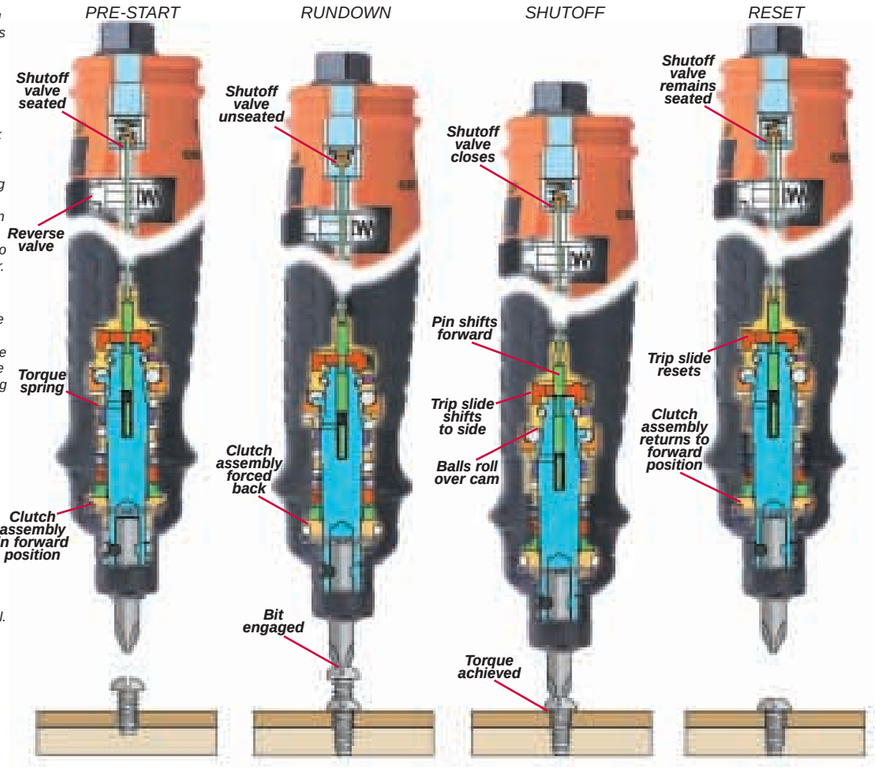
Clecomatic Clutch Operation

PRE-START
In the pre-start position, air pressure forces the shutoff valve forward and seated, preventing live air from reaching the motor. In turn, the clutch assembly is forced forward to the front of the clutch housing by the trip rod.

RUNDOWN
As the operator pushes the tool against the workpiece, the clutch is forced back into the clutch housing, unseating the shutoff valve, and allowing live air to reach the motor. During rundown, spring force holds balls within the clutch assembly firmly down in valleys between lobes of the clutch cam, causing the motor, gear train, and clutch assembly to rotate as one unit to tighten the fastener.

SHUTOFF
The torque at which the clutch shuts the tool off is determined by the amount of compression force exerted by the torque spring. This torque is preset, and can be adjusted externally by either compressing or relaxing the torque spring in order to increase or decrease torque output.
At the critical moment that the desired output torque on the fastener is reached, two things happen:
***1.** The balls roll over the top of the cam lobes, disengaging the spindle from the motor, reducing the influence of inertia from the spinning motor.*
***2.** The clutch spindle cam forces the trip slide far enough to the side to allow a dowel pin to move forward through a hole in the trip slide. This allows the shutoff valve to seat, shutting off the tool.*

RESET
When the tool is removed from the workpiece the clutch moves forward in the housing, and two small springs reverse the linear motion of the previous step, allowing the trip slide to return to its operating position.

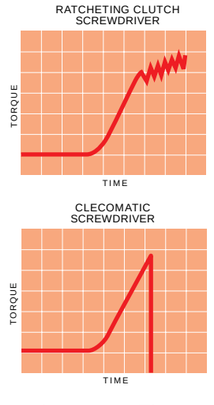


Clecomatic tools improve operator performance, reduce operator fatigue.

Clecomatic tools have been designed from the inside out to make your operators more efficient and productive, while helping to minimize the fatigue associated with high volume assembly operations.

Reduced torque reaction, absence of vibration, quieter operation, ease of starting, compact size, high power-to-weight ratio, better tool feel and balance and greater reliability are some of the benefits Clecomatic tools provide for operators.

Couple these advantages with more power per pound, which reduces operator fatigue, along with a tool that is easy to handle and more efficient.



Because Clecomatic tools do not ratchet, the operator is not subjected to tiring shock, vibration and excessive torque reaction. The TORQUE/ TIME graphs at left illustrate how Clecomatic tools reduce the length of time an operator spends counteracting the ratcheting effect of other screwdrivers.

Operators using Clecomatic tools are exposed to far less tool noise, providing an improvement in their working environment. The automatic start/stop feature means that the tool runs only while the fastener is being tightened. When the tool shuts off, the fastener is accurately seated and there is virtually no clutch ratcheting, reducing the operator's exposure to tool noise by as much as 80%.

TYPE OF SCREWDRIVER	MOTOR NOISE DURING POSITIONING OF TOOL	MOTOR NOISE WHILE DRIVING FASTENER	MOTOR AND CLUTCH NOISE DURING DWELL
Clecomatic	NONE		NONE
Push-to-Start Ratcheting	NONE		
Lever-Operated Ratcheting			

Reduce energy costs as much as 85%.

Clecomatic screwdrivers save energy costs. Time studies on air consumption conducted with several types of screwdrivers have shown that the time a tool is using air can be decreased from 4.0 seconds to .6 seconds per fastener cycle, lowering the cost of compressed air by 85% over lever operated ratcheting screwdrivers.

60 MONTH WARRANTY

Cleco® 14 & 8 Series Clecomatic® Screwdrivers

Cooper Power Tools warrants the 14 and 8 series Clecomatic screwdrivers and parts to be free from defects in workmanship and material of the life of the tool. The clutch assemblies are warranted for SIXTY MONTHS against failure or wear causing malfunction.

Cooper Power Tools' obligation under this warranty is to repair or replace, without charge to the original purchaser, any part which does not meet the warranty outlined above during the active commercial production of this tool. This tool is to be returned to the factory with carrying charges prepaid.

This warranty shall not apply to any product that has been fixture mounted or subjected to misuse, negligence or accident; or in which parts not made or supplied by Cooper Power Tools shall have been used; or which shall have been altered or repaired by other than Cooper Power Tools personnel in a manner which in the determination of Cooper Power Tools shall have affected its operation.

THIS WARRANTY CONSTITUTES THE ENTIRE OBLIGATION OF THE COMPANY RELATING TO THE SALE AND USE OF SUCH PRODUCT AND ITS MAXIMUM LIABILITY IS LIMITED TO THE PURCHASE PRICE OF SUCH PRODUCT. IN NO EVENT SHALL THE COMPANY BE LIABLE FOR CONSEQUENTIAL, INDIRECT, INCIDENTAL OR SPECIAL DAMAGES OF ANY NATURE ARISING FROM THE SALE OF USE OF SUCH PRODUCT.

The cost saved in reduced air consumption alone can easily cover the cost of a Clecomatic screwdriver over its service life.

Up to five times longer life, fewer replacement parts and lower service costs make Clecomatic screwdrivers a true value in quality.

The major benefit offered by Clecomatic screwdrivers is their extremely long service life. As with other quality products, their cost should be measured in terms of years of service, maintenance costs for parts and labor, and on-the-job performance.

Measurably longer life of Clecomatic screwdrivers has been achieved through simplicity of design requiring fewer moving parts, coupled with the smooth rolling action of large diameter clutch balls that increase load bearing surfaces for longer clutch life. Also, the use of fewer parts allows the size and wall thickness of the vital components to be beefed up for greater strength and durability.

These patented design features, along with high quality, close tolerance motors and rugged gear components, extend the interval between service and reduce replacement parts cost.

The warranty covering the 14 and 8 series Clecomatic screwdrivers is further proof that these Cleco tools last longer.

Cleco®

Introducing the Cleco 14 Series Inline Screwdrivers... the new industry standard

Cooper Power Tools has made the Cleco #5 – now to be called the Cleco 14 Series – even better, by re-engineering the ergonomics for greater comfort, reduced fatigue and enhanced productivity.

We've also reduced the noise level and added a few innovative new features: (1) a rear overhose option to help decrease noise levels and exhaust contaminants (2) one-handed reverse actuation (3) torque signal capability for use with qualifiers.

Single lever action for increased productivity
Soft, oval-shaped housing fits the natural contour of the hand providing maximum operator comfort and grip.
Torque Signal capability kit available.
Model number indicates maximum torque value.
Hidden, but easy to access, torque adjustment reduces on line tampering.
(Shown in open position.)
Comfort grip tapered to indicate tool direction.
Cleco
COOPER Tools
USA
Clecomatic

Overhose available for exhaust deflection and noise reduction.
Composite housing reduces temperature and vibration transfer to improve operator comfort.
Single lever action for increased productivity
Soft, oval-shaped housing fits the natural contour of the hand providing maximum operator comfort and grip.
Time-proven clutch assembly and planetary gears are interchangeable with Cleco #5 screwdrivers. Clutch is warranted for 5 full years.

The Things We Changed

The new Cleco 14S inline screwdrivers deliver a number of significant improvements over the industry-standard Cleco #5, as well as competing tools:

- Dramatically redesigned ergonomics enable the tool to run cooler in the hand, promote operator comfort and improve productivity.
- One-hand actuation of the reverse mode results in improved fastening speeds and higher productivity levels.
- The rear exhaust can be fitted with an optional overhose, which helps to reduce noise levels and improve operator performance.
- Lower noise levels enhance operator comfort and relieve fatigue.
- Torque signal capability for use with qualifiers for process control.

Multiple handle configurations for improved flexibility and operator comfort.

The Things We Didn't Change

The Cleco #5 was such a great tool, there were a lot of things we didn't change in the design of the new Cleco 14S:

- The heart of the Cleco 14S is still the time-honored, time-proven Clecomatic clutch, which assures you of greater consistency and repeatability in a wide variety of fastening applications.
- Both push-to-start and lever push-to-start options are available to suit operator preferences.
- High power-to-weight ratios and automatic start/stop mechanism help reduce cycle time from fastener to fastener and improve productivity.
- More than 90% of your Cleco #5 parts will be interchangeable with the Cleco 14S, resulting in substantial cost savings for spare parts. Retrofit kits for the Cleco #5 are also available.

Cleco®

2, 14 Series

Torque Range:
.06 – 5.1 Nm
0.5 – 45 In. Lbs

Screw Size:
M2.5 – M4
#4 – #10

- Push button and sliding knob reverse
- Push-to-start and Push & Lever start
- External torque adjustment
- Bit & finder and quick change chuck

Model Number		Screw Size		Free Speed	Torque Range		Length*		Weight	
		Gr. 5	Gr. 9.8							
1/4" Quick Change	Bit & Finder*	in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Push-to-Start - Push Button Reverse – Clecomatic Clutch										
2RSA-10B		#4	M2.5	1000	.5 - 8	.06 - .9	7.60	194	0.5	0.20
2RSA-10SB**		#4	M2.5	1000	.5 - 8	.06 - .9	6.40	162	0.5	0.20
14BPA02Q		#6	M3.5	2300	4 - 14	.5 - 1.6	9.05	230	1.4	0.63
14BPA03Q		#8	M3.5	1600	4 - 19	.5 - 2.1	9.25	235	1.4	0.64
14BPA04Q		#10	M4	920	3 - 33	.3 - 3.7	9.05	230	1.3	0.61
14BPA05Q		#10	M4	560	2 - 45	.2 - 5.1	9.45	240	1.5	0.67
14BPA06Q		#10	M4	220	2 - 45	.2 - 5.1	9.45	240	1.5	0.68
Push-to-Start - Reversible – Clecomatic Clutch										
14SPA02Q	14SPA02B	#6	M3.5	2800	4 - 19	.5 - 2.1	9.05	230	1.4	0.63
14SPA03Q	14SPA03B	#8	M3.5	1900	4 - 26	.5 - 2.9	9.25	235	1.4	0.64
14SPA04Q	14SPA04B	#10	M4	1100	3 - 40	.4 - 4.5	9.05	230	1.3	0.61
14SPA05Q	14SPA05B	#10	M4	660	2 - 45	.2 - 5.1	9.45	240	1.5	0.67
14SPA06Q	14SPA06B	#10	M4	260	2 - 45	.2 - 5.1	9.45	240	1.5	0.68
Lever Push-to-Start - Reversible – Clecomatic Clutch										
14SCA02Q	14SCA02B	#6	M3.5	2800	4 - 19	.5 - 2.1	9.80	249	1.5	0.69
14SCA03Q	14SCA03B	#8	M3.5	1900	4 - 26	.5 - 2.9	10.00	254	1.5	0.70
14SCA04Q	14SCA04B	#10	M4	1100	3 - 40	.4 - 4.5	9.80	249	1.5	0.66
14SCA05Q	14SCA05B	#10	M4	660	2 - 45	.2 - 5.1	10.20	259	1.6	0.73
14SCA06Q	14SCA06B	#10	M4	260	2 - 45	.2 - 5.1	10.20	259	1.6	0.74

*Add .63" (16mm) for bit & finder models
** Short housing

GENERAL:
Air Inlet: 1/8" NPT
Minimum Hose Size: 3/16"
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual.
Suspension bail.
All torque springs required to meet indicated torque specification.
Lever Push-to-Start models include kit to convert to lever only. (301409)

OPTIONAL EQUIPMENT:
Bits & finders: Page 24
Additional accessories: Pages 24-26
Non-Reverse Kit: 207030
Torque Signal Kit: 301106 (lever only)
Overhose: 207019

Inline Screwdrivers
Clecomatic Clutch

Cleco®

8, 88 Series

Torque Range:
0.8 – 19 Nm
7.0 – 170 In. Lbs

Screw Size:
M3.5 – M6
#8 – 5/16

- Bit and finder, quick change and square drive
- Short stroke button reverse
- External torque adjustment (Quick change)

Model Number			Screw Size		Free Speed	Torque Range		Length*		Weight	
			Gr. 5	Gr. 9.8							
Bit & Finder	1/4 " Hex Quick Change	3/8" Square Drive	in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Push-to-Start - Push Button Reverse											
8RSA-40	8RSA-40BQ		#8	M3.5	3200	7-25	.8-2.8	8.9	241	2.1	1.0
8RSA-30	8RSA-30BQ		#10	M4	2500	7-30	.8-3.4	8.9	241	2.1	1.0
8RSA-20	8RSA-20BQ		#10	M4	1800	7-40	.8-4.5	8.9	241	2.1	1.0
8RSA-10	8RSA-10BQ		#10	M5	800	7-65	.8-7.3	9.6	260	2.4	1.1
	8RSA-7BQ		1/4	M5	550	7-75	.8-8.5	9.6	260	2.4	1.1
	8RSA-5BQ		1/4	M5	400	7-75	.8-8.5	9.6	260	2.4	1.1
	88RSA-7CQ	88RSA-7C-3	1/4	M6	550	15-95	2-10	9.5	241	2.6	1.2
	88RSA-5CQ	88RSA-5C-3	5/16	M6	400	15-160	2-18	9.5	241	2.6	1.2
Push-to-Start - Non-Reversible											
	8SA-20BQ		#10	M4	2000	7-42	.8-4.7	8.5	232	2.0	0.9
8SA-10	8SA-10BQ		#10	M5	1000	7-67	.8-7.6	9.1	251	2.3	1.0
	8SA-7BQ		1/4	M5	650	7-75	.8-8.5	9.1	251	2.3	1.0
	88SA-7CQ		1/4	M6	650	15-100	2-11	9.1	232	2.5	1.1
	88SA-5CQ	88SA-5C-3	5/16	M6	500	15-170	2-19	9.1	232	2.5	1.1
Push and Lever Start - Push Button Reverse											
8RSAL-20	8RSAL-20BQ		#10	M4	1800	7-38	.8-4.3	10.5	282	2.6	1.2
	8RSAL-10BQ		#10	M5	800	7-60	.8-6.8	11.3	302	2.9	1.3
	88RSAL-5CQ	88RSAL-5C-3	5/16	M6	400	15-160	2-18	11.1	282	3.1	1.4

* Add .63" (16mm) for bit & finder models

GENERAL:
Air Inlet: 1/4" NPT
Minimum Hose Size: 1/4"
Tool performance rated at 90 psi (620kPa) air pressure.
Length and weight of finder type tools includes standard length bit & finder.
Weight does not include dead handle.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Dead handle on all models above 100 in.lbs. torque capacity
All torque springs required to meet indicated torque specification

STANDARD EQUIPMENT IF SPECIFIED:
One bit, finder, and finder spring (bit & finder models only)
Grip Sleeve (202346; Push-to-Start models only)
Dead handle (861006)

OPTIONAL EQUIPMENT:
Bits & finders: Page 24
Additional accessories: Pages 24-26
Torque Springs: Page 24

Cleco®

Introducing the Cleco 14 Series Pistol Grip Screwdrivers... the new industry standard

Cooper Power Tools has made the Cleco #5 – now to be called the Cleco 14 Series – even better, by re-engineering the ergonomics for greater comfort, reduced fatigue and enhanced productivity.

We've also reduced the noise level and added a few innovative new features: (1) a rear overhose option to help decrease noise levels and exhaust contaminants (2) one-handed reverse actuation (3) torque signal capability for use with qualifiers.

The Things We Changed

Like their inline counterparts, the new Cleco 14 series pistol grip screwdrivers deliver a number of improvements over the #5 and competing tools:

- Redesigned ergonomics enable the Cleco 14P and 14T to run cooler in the hand, promote operator comfort and improve productivity.
- Two handle styles are available to match the application requirements. "P" style handle is ergonomically designed for driving screws. The "T" handle design is best suited for small nut or bolt rundowns. In either case, the handle comfortably conforms to the hand.
- The bottom exhaust can be fitted with an optional overhose, which helps to reduce noise levels and improve operator performance.
- Lower noise levels enhance operator comfort and relieve fatigue.
- Multiple air inlets (top, bottom, rear) on "T" handle.
- Torque signal capability for use with qualifiers for process control.

The Things We Didn't Change

The Cleco #5 was such a great tool, there were a lot of things we didn't change in the design of the new Cleco 14P and 14T:

- Both pistol grip tools are available with the time-honored, time-proven Clecomatic clutch or a stall clutch, which assures you of greater flexibility in a wide variety of fastening applications.
- Feathering trigger to allow for slow starts and controlled operation.
- High power-to-weight ratios and automatic start/stop mechanism help reduce cycle time from fastener to fastener and improve productivity.
- More than 90% of your Cleco #5 parts will be interchangeable with the Cleco 14, resulting in substantial cost savings for spare parts. Retrofit kits for the Cleco #5 are also available.

P Handle

Handles are shaped to fit the human hand. They are flat where they need to be flat and round where they need to be round.

Time-proven clutch assembly and planetary gears are interchangeable with Cleco #5 screwdrivers. Clutch is warranted for 5 full years.

Ergonomically critical finger and thumb guides fit the hand and aid in control.

Finger lip under the trigger keeps other fingers from interfering with the trigger action.

Torque signal capability kit available.

Single lever action for increased productivity

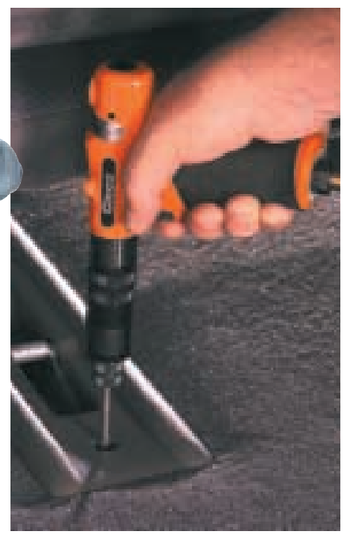
T Handle

Hidden, but easy to access, torque adjustment reduces on line tampering.

Torque signal capability kit available.

Rubber grip acts as a thermal protector and isolates vibration for improved operator comfort.

Three choices for air inlet (top, bottom, rear) as standard on "T" handle models for application flexibility



Cleco®

14 Series

Torque Range:
0.2 – 14.7 Nm
2.0 – 130 In. Lbs

Screw Size:
M3.5 – M6
#6 – 1/4”

- Sliding knob reverse
- External torque adjustment
- Convenient top, bottom and rear air inlet

Model Number	Screw Size		Free Speed	Torque Range		Length*		Weight	
1/4” Quick Change	Gr. 5 in.	Gr. 9.8 mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Push and Trigger Start - T Handle - Clecomatic Clutch									
14TCA02Q	#6	M3.5	2800	4 - 19	0.5 - 2.1	8.4	214	1.8	0.8
14TCA03Q	#8	M3.5	1900	4 - 26	0.5 - 2.9	8.6	219	1.9	0.8
14TCA04Q	#10	M4	1100	3 - 40	0.3 - 4.5	8.4	214	1.9	0.8
14TCA05Q	#10	M4	660	2 - 45	0.2 - 5.1	8.8	224	1.9	0.9
14TCA06Q	#10	M4	260	2 - 45	0.2 - 5.1	8.8	224	1.9	0.9
Trigger Start - T Handle - Clecomatic Clutch									
14TTA02Q	#6	M3.5	2800	4 - 19	0.5 - 2.1	8.3	211	1.8	0.8
14TTA03Q	#8	M3.5	1900	4 - 26	0.5 - 2.9	8.5	216	1.9	0.8
14TTA04Q	#10	M4	1100	3 - 40	0.3 - 4.5	8.3	211	1.9	0.8
14TTA05Q	#10	M4	660	2 - 45	0.2 - 5.1	8.7	221	1.9	0.9
14TTA06Q	#10	M4	260	2 - 45	0.2 - 5.1	8.7	221	1.9	0.9
14TTA07Q	#10	M5	660	21 - 60	2.4 - 6.8	10.0	255	2.3	1.0
14TTA10Q	1/4"	M5	400	30 - 87	3.4- 9.8	10.2	260	2.3	1.1
14TTA15Q	1/4"	M6	250	35 - 130	4.0 - 14.7	10.0	255	2.3	1.0

GENERAL:
Air Inlet: 1/8” NPT
Minimum Hose Size: 3/16”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Dead handle on all models above 100 in.-lbs. torque capacity
All torque springs required to meet indicated torque specification

OPTIONAL EQUIPMENT:
Additional accessories: Pages 24-26
Non-Reverse Kit: 207030
Torque Springs: Page 24
Torque Signal Kit: 301118 (Trigger with Clecomatic clutch only)
Overhose: 207107
Push-only Conversion Kit: 301121

Pistol Grip Screwdrivers
Clecomatic Clutch

Cleco®

14 Series

Torque Range:
0.2 – 14.7 Nm
2.0 – 130 In. Lbs

Screw Size:
M3.5 – M6

- Sliding knob reverse
- External torque adjustment
- Quick change drive

Model Number	Screw Size		Free Speed	Torque Range		Length*		Weight	
1/4” Quick Change	Gr. 5 in.	Gr. 9.8 mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Push & Trigger Start - P Handle - Clecomatic Clutch									
14PCA02Q	#6	M3.5	2800	4 - 19	0.5 - 2.1	8.2	208	1.7	0.8
14PCA03Q	#8	M3.5	1900	4 - 26	0.5 - 2.9	8.4	213	1.8	0.8
14PCA04Q	#10	M4	1100	3 - 40	0.3 - 4.5	8.2	208	1.7	0.8
14PCA05Q	#10	M4	660	2 - 45	0.2 - 5.1	8.6	218	1.8	0.8
14PCA06Q	#10	M4	260	2 - 45	0.2 - 5.1	8.6	218	1.8	0.8
Trigger Start - P Handle - Clecomatic Clutch									
14PTA02Q	#6	M3.5	2800	4 - 19	0.5 - 2.1	8.1	205	1.7	0.8
14PTA03Q	#8	M3.5	1900	4 - 26	0.5 - 2.9	8.3	210	1.8	0.8
14PTA04Q	#10	M4	1100	3 - 40	0.3 - 4.5	8.1	205	1.7	0.8
14PTA05Q	#10	M4	660	2 - 45	0.2 - 5.1	8.5	215	1.8	0.8
14PTA06Q	#10	M4	260	2 - 45	0.2 - 5.1	8.5	215	1.8	0.8
14PTA07Q	#10	M5	660	21 - 60	2.4 - 6.8	9.8	249	2.2	1.0
14PTA10Q	1/4"	M5	400	30 - 87	3.4 - 9.8	10.0	254	2.2	1.0
14PTA15Q	1/4"	M6	250	35 - 130	4.0 - 14.7	9.8	249	2.2	1.0

GENERAL:
Air Inlet: 1/8” NPT
Minimum Hose Size: 3/16”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Dead handle on all models above 100 in.-lbs. torque capacity
All torque springs required to meet indicated torque specification

OPTIONAL EQUIPMENT:
Additional accessories: Pages 24-26
Non-Reverse Kit: 301120
Torque Springs: Page 24
Torque Signal Kit: 301119 (Trigger with Clecomatic clutch only)

Cleco®

8, 88 Series

Torque Range:
0.8 – 20 Nm
7.0 – 180 In. Lbs

Screw Size:
M3.5 – M6
#8 – 5/16”

- Bit and finder, quick change and square drive
- Reversible

Model Number			Screw Size		Free Speed	Torque Range		Length*		Weight	
Bit & Finder	1/4 ” Hex Quick Change	3/8” Square Drive	Gr. 5	Gr. 9.8							
			in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Push-to-Start - Sliding Knob Reverse											
	8RSAP-20BQ		#10	M4	1800	7-40	.8-4.5	8.5	216	2.8	1.3
	8RSAP-10BQ		#10	M5	800	7-65	.8-7.3	9.3	235	3.0	1.4
	8RSAP-7BQ		1/4	M5	550	7-75	.8-8.5	9.3	235	3.0	1.4
Push and Trigger Start - Sliding Knob Reverse											
	8RSAPT-40BQ		#8	M3.5	3200	7-25	.8-2.8	8.5	216	2.8	1.3
	8RSAPT-20BQ		#10	M4	1800	7-40	.8-4.5	8.5	216	2.8	1.3
	8RSAPT-10BQ		#10	M5	800	7-65	.8-7.3	9.3	235	3.0	1.4
	8RSAPT-7BQ		1/4	M5	550	7-75	.8-8.5	9.3	235	3.0	1.4
8RSAPT-5B	8RSAPT-5BQ		1/4	M5	400	7-75	.8-8.5	9.3	235	3.0	1.4
	88RSAPT-7CQ		1/4	M6	550	15-95	2-10	9.0	229	3.1	1.4
	88RSAPT-5CQ	88RSAPT-5C-3	5/16	M6	400	15-160	2-18	9.0	229	3.1	1.4
	88RSAPT-2CQ		5/16	M6	200	15-180	2-20	9.8	248	3.4	1.5
Trigger Start - Sliding Knob Reverse											
	8RSATP-30BQ		10	M4	2500	7-30	.8-3.4	8.4	213	2.8	1.3
	8RSATP-20BQ		10	M4	1800	7-40	.8-4.5	8.4	213	2.8	1.3
	8RSATP-10BQ		10	M5	800	7-65	.8-7.3	9.1	232	3.0	1.4
	8RSATP-7BQ		1/4	M5	550	7-75	.8-8.5	9.1	232	3.0	1.4
	8RSATP-5BQ		1/4	M5	400	7-75	.8-8.5	9.1	232	3.0	1.4
	88RSATP-7CQ	88RSATP-7C-3	1/4	M6	550	15-95	2-10	8.9	225	3.1	1.4
	88RSATP-5CQ	88RSATP-5C-3	5/16	M6	400	15-160	2-18	8.9	225	3.1	1.4
	88RSATP-2CQ	88RSATP-2C-3	5/16	M6	200	15-180	2-20	9.6	245	3.4	1.5

* Add .63” (16mm) for bit & finder models

GENERAL:
Air Inlet: 1/4” NPT
Minimum Hose Size: 1/4”
Tool performance rated at 90 psi (620kPa) air pressure.
Length and weight of finder type tools includes standard length bit & finder.
Weight does not include dead handle

STANDARD EQUIPMENT:
Operating instructions & service manual
Dead handle on all models above 100 in.lbs. torque capacity
All torque springs required to meet indicated torque specification

STANDARD EQUIPMENT IF SPECIFIED:
One bit, finder, and finder spring (bit & finder models only)
Dead handle (861006)

OPTIONAL EQUIPMENT:
Bits & finders: Page 24
Additional accessories: Pages 24-26
Torque Springs: Page 24

Cleco®

35 Series

Torque Range:
2.0 – 20 Nm
15 – 180 In. Lbs

Screw Size:
M5 – M6
#10 – 5/16”

- Inline and pistol grip
- Quick change and square drive
- Reversible

Model Number		Screw Size		Free Speed	Torque Range		Length		Weight	
1/4” Hex Quick Change	3/8” Square Drive	Gr. 5	Gr. 9.8							
		in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Inline - Push-to-Start - Push Button Reverse										
35RSA-20Q		#10	M5	1250	15-60	2-7	9.6	244	2.5	1.1
35RSA-10Q	35RSA-10-3	1/4	M6	620	15-110	2-12	10.4	264	2.8	1.2
35RSA-7Q		5/16	M6	410	15-160	2-18	10.4	264	2.8	1.2
35RSA-5Q	35RSA-5-3	5/16	M6	300	15-180	2-20	10.4	264	2.8	1.2
Pistol Grip - Push-to-Start - Sliding Knob Reverse										
35RSAP-20Q		#10	M5	1550	15-60	2-7	9.1	232	3.1	1.4
35RSAP-10Q		1/4	M6	770	15-110	2-12	9.9	251	3.4	1.5
35RSAP-7Q		5/16	M6	510	15-160	2-18	9.9	251	3.4	1.5
Pistol Grip - Push and Trigger Start - Sliding Knob Reverse										
35RSAPT-20Q		#10	M5	1500	15-60	2-7	9.1	232	3.1	1.4
35RSAPT-10Q		1/4	M6	750	15-110	2-12	9.9	251	3.4	1.5
35RSAPT-7Q		5/16	M6	500	15-160	2-18	9.9	251	3.4	1.5
35RSAPT-5Q		5/16	M6	350	15-180	2-20	9.9	251	3.4	1.5
Pistol Grip - Trigger Start - Sliding Knob Reverse										
35RSATP-20Q		#10	M5	1500	15-60	2-7	9.0	229	3.1	1.4
35RSATP-10Q	35RSATP-10-3	1/4	M6	750	15-110	2-12	9.8	248	3.4	1.5
35RSATP-7Q		5/16	M6	500	15-160	2-18	9.8	248	3.4	1.5
35RSATP-5Q	35RSATP-5-3	5/16	M6	350	15-180	2-20	9.8	248	3.4	1.5

GENERAL:
Air Inlet: 1/4” NPT
Minimum Hose Size: 5/16”
Tool performance rated at 90 psi (620kPa) air pressure.
Weight does not include dead handle

STANDARD EQUIPMENT:
Operating instructions & service manual
Dead handle on all models above 100 in.lbs. torque capacity
All torque springs required to meet indicated torque specification

STANDARD EQUIPMENT IF SPECIFIED:
Dead handle (861006)

OPTIONAL EQUIPMENT:
Additional accessories: Pages 24-26
Torque Springs: Page 24

Cleco®

5, 8 Series

Torque Range:
0.4 – 8.5 Nm
4.0 – 75 In. Lbs

Screw Size:
M3.5 – M5
#6 – 1/4”

- Inline, pistol and underslung pistol grip
- Reversible and non-reversible
- Bit and finder and quick change

Model Number		Screw Size		Free Speed	Torque Range		Length*		Weight	
		Gr. 5	Gr. 9.8							
Bit & Finder	1/4” Quick Change	in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Rolling Impulse - Inline - Lever Start - Push Button Reverse										
	8RSCL-20BQ	#10	M4	1800	7-40	.8-4.5	9.6	244	2.3	1.0
	8RSCL-10BQ	#10	M5	800	7-65	.8-7.3	10.4	264	2.5	1.1
	8RSCL-7BQ	1/4	M5	550	7-75	.8-8.5	10.4	264	2.5	1.1
Rolling Impulse - Pistol Grip - Trigger Start - Push Button Reverse										
	8RSCO-20BQ	#10	M4	1800	7-40	.8-4.5	9.1	232	2.6	1.2
Auto-Start - Inline - Push-to-Start - Push Button Reverse										
5RSCH-17	5RSCH-17Q	#8	M3.5	1600	4-26	.4-2.9	8.6	219	1.2	0.5
	5RSCH-10BQ	#8	M3.5	920	4-26	.4-2.9	8.6	213	1.1	0.5
8RSCH-20	8RSCH-20BQ	#10	M4	1800	7-40	.8-4.5	8.9	225	2.1	1.0
	8RSCH-10BQ	#10	M5	800	7-65	.8-7.3	9.6	244	2.4	1.1
Auto Start - Pistol Grip - Push and Trigger Start - Sliding Knob Reverse										
	5RSCHPT-17Q	#8	M3.5	1900	4-26	.4-2.9	8.6	219	1.6	0.7
Auto Start - Pistol Grip - Trigger Start - Sliding Knob Reverse										
	5RSCHTP-17Q	#8	M3.5	1900	4-26	.4-2.9	8.5	210	1.6	0.7

* Add .63” (16mm) for bit & finder models

GENERAL:
Air Inlet: 1/8” NPT (inline 5 series models), 1/4” NPT
Minimum Hose Size: 3/16” (5 series models), 1/4” (8 series models)
Tool performance rated at 90 psi (620kPa) air pressure.
Length and weight of finder type tools includes standard length bit & finder.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail (all models except 8 series pistol grip)
Handle Grip (5 series pistol grip)

STANDARD EQUIPMENT IF SPECIFIED:
One bit, finder, and finder spring (bit & finder models only)
One of the following grip sleeves (as specified):
Round (869734: 5 series inline models)
Tri-roundular (203621: 5 series inline models)
Round (202346: 8 series inline
Push-to-Start models)

OPTIONAL EQUIPMENT:
Bits & finders: Page 24
Additional accessories: Pages 24-26

Cleco®

14, 8, Series

Torque Range:
2.1 – 12.4 Nm
19 – 110 In. Lbs

Screw Size:
M3 – M6
#6 – 1/4”

- Pistol and underslung pistol grip
- 1/4” hex quick change drive
- Trigger start
- Convenient top, bottom and end air inlet (14 Series T handle)

Model Number	Screw Size		Free Speed	Torque Range		Length*		Weight	
	Gr. 5	Gr. 9.8							
1/4” Quick Change	in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg
Trigger Start - T Handle - Sliding Knob Reverse									
14TTS02Q	#8	M3.5	2800	19	2.1	6.5	166	1.6	0.7
14TTS03Q	#10	M4	1900	27	3.1	6.8	171	1.6	0.7
14TTS04Q	#10	M4	1100	40	4.5	6.5	166	1.6	0.7
14TTS05Q	#10	M4	660	45	5.1	6.9	175	1.8	0.8
8RNP-20BQ	#10	M4	1800	44	5.0	5.4	137	2.1	1.0
8RNP-10BQ	#10	M5	800	70	7.9	6.1	156	2.4	1.1
Trigger Start - P Handle - Sliding Knob Reverse									
14PTS02Q	#8	M3.5	2800	19	2.1	6.3	161	1.5	0.7
14PTS03Q	#10	M4	1900	27	3.1	6.5	166	1.5	0.7
14PTS04Q	#10	M4	1100	40	4.5	6.3	161	1.5	0.7
14PTS05Q	#10	M4	660	45	5.1	6.7	170	1.7	0.8
Trigger Start - Pistol Grip - Push Button Reverse									
8RNO-20BQ	#10	M4	1800	44	5.0	6.0	152	2.0	0.9
8RNO-10BQ	#10	M5	800	70	7.9	6.8	171	2.3	1.0
8RNO-7BQ	1/4	M6	550	110	12.4	6.8	171	2.3	1.0

GENERAL:
Air Inlet: 1/8” NPT (14 Series), 1/4” NPT
Minimum Hose Size: 3/16” (14 Series), 1/4” (8 series models)
Tool performance rated at 90 psi (620kPa) air pressure.

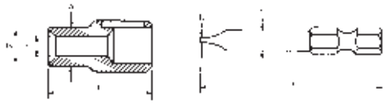
STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
All torque springs required to meet indicated torque specification
Dead handle on all models above 100 in.lbs. torque capacity

STANDARD EQUIPMENT IF SPECIFIED:
Dead handle (861006; 8 series models)

OPTIONAL EQUIPMENT:
Bits: Page 24
Additional accessories: Pages 24-26
Non-Reverse Kit:
14 series T Handle: 207030
14 series P Handle: 301120
Overhose:
14 series T Handle: 207107

Screwdrivers

Standard and Extended Flat Bits and Finders



Screw Size	Standard Length (F = 1 1/16 in.; G = 1 5/16 in.)		Finder Dimensions (in.)			Bit Dimensions (in.)		Extended Length (F = 2 1/4 in.; G = 3 in.)	
	Bit No.	Finder No.	A	B	C	D	E	Bit No.	Finder No.
1F- 2R	849617	847299	.22	.169	.128	.026	.122	849891	847481
2F- 3R	849843	863242	.250	.196	.140	.028	.134	849879	847480
3F- 4R	849618	847300	.285	.228	.160	.032	.154	849892	847482
4F- 5R	849153	847301	.315	.259	.193	.034	.187	849893	847483
5F- 6R	849619	847302	.345	.291	.221	.036	.215	849894	847484
6F- 8R	849154	847303	.380	.323	.256	.038	.250	849895	847485
8F-10R	849620	847294	.445	.386	.281	.042	.275	849896	847486
10F-12R	849155	847304	.530	.431	.318	.046	.312	849897	847487
12F-14R	849156	847305	.590	.513	.366	.050	.360	849898	847488

Finder Springs

Light Force
844000

Medium Force
865728

Phillips Bits and Support Bushings

Phillips Bit Point Size	Bit Body Diameter (in.)	Phillips Bit Part No.	Support Bushing* Part No.
Standard: 1/4 in. Hex Shank Bit – 2 3/4 in. O.A. Length; Bushing – 1 3/16 in. O.A. Length			
1	3/16	809451	847301
2	1/4	809470	847303
3	5/16	809471	847304
Extended: 1/4 in. Hex Shank Bit – 3 1/2 in. O.A. Length; Bushing – 2 1/4 in. O.A. Length			
1	3/16	809453	847483
2	1/4	809473	847485
3	5/16	809474	847487

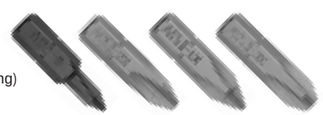
*Bushing not required on Quick Change models.

Bit Holders and Support Bushings

1/4" Hex Drive Nonmagnetic Bit Holder
Part No. 490 (2 1/8" O.A. Length)
1/4" Hex Drive Magnetic Bit Holder
Part No. 849325 (2 3/8" O.A. Length)
Magnetic Support Bushing* Part No. 849621
Nonmagnetic Support Bushing* Part No. 847245
Quick-Change Bushing Part No. 201203
Fits all finder type tools except No. 2 Screwdriver
**Bushing not required on Quick Change models.*

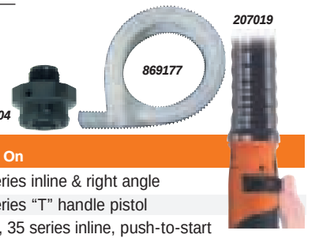
Insert Bits

Used with Bit Holders
(all bits are 1.0" (25.4 mm) long)



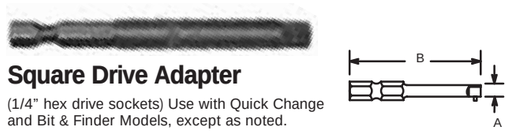
Point Size	Part Number		Wood		Machine & Self tapping			
	Phillips	Pozi-Drive	Flat & Oval	Round	Flat, Oval & Pan	Fillister	Truss	Binding
0	446-0	446-1P2D	0.1	0.1	0.1	0.1	0.1	0.1
1	HPL-1	440-1PZD	2-4	2-4	2-4	2-4	2-4	2-4
2	HPI-2	440-2PZD	5-8	5-10	5-10	5-10	6-10	5-10
3	HPI-3	440-3PZD	10-16	12-16	12-16	12-5/16	12-16	12-1/4

Exhaust Overhose & Adapter



Ordering No.	Description	Used On
207019	Overhose	14 series inline & right angle
207107	Overhose	14 series "T" handle pistol
869204	Adapter	8, 88, 35 series inline, push-to-start

Square Drive Adapter



(1/4" hex drive sockets) Use with Quick Change and Bit & Finder Models, except as noted.

Part Number	"A" Sq. Drive	"B" In.	"B" mm	Bushing Number
EX250-2	1/4	2.00	50.8	–
EX250-3	1/4	3.00	76.2	847295*
EX250-4	1/4	4.00	101.6	–
EX250-6	1/4	6.00	152.4	–
EX370	3/8	1.63	41.3	–
EX370-3	3/8	3.00	76.2	847295*
EX500-2	1/2	2.00	50.8	–
EX500-3	1/2	3.00	76.2	–

* Note: Required for bit and finder models.

Screwdrivers – Clutch Torque Springs

Spring Color	Torque Range In. lbs.	Torque Range Nm	Ordering No.
2 Series			
Blue	1.5-.5	17-.06	202870
Green	8-1	.9-.1	202869
14 Series			
Blue	8-2	.9-.23	203580
Purple	11-2	1.2-.23	204322
Green	19-5	2.1-.6	203579
White	38-10	4.3-1.1	203575
Yellow	45-15	5.1-1.7	203578
8 Series			
Blue	17-7	1.9-.8	869203
Green	55-15	6.2-1.7	867983
Red	75-35	8.5-4	867931
88, 35 Series			
Green	55-15	6-2	202822
Yellow	160-35	18-4	869306
Red	180-60	20-7	869305

Screwdrivers

Portable Tool Balancers

Part Number	Capacity Max.	Capacity Min.	Net Weight	Min. Dist. Hook to Hook	Length of Working Cable
200427	2 lb.	0 lb.	1 lb. 4 oz.	10 7/8 in.	5 ft.
200428	4 lb.	2 lb.	1 lb. 4 oz.	10 7/8 in.	5 ft.
200429	5 lb.	3 lb.	1 lb. 4 oz.	10 7/8 in.	5 ft.
PL-12A	12 lb.	1 lb.	–	6.8 in.	4.6 ft.
BL-2A	2 lb.	1 lb.	1.1 lbs.	10.4 in.	5.2 ft.
BL-4A	4 lb.	2 lb.	1.1 lbs.	10.4 in.	5.2 ft.

Dead Handle

Ordering No.	Used On
201770	5 series, 14 series
861006	8, 88, 35 series

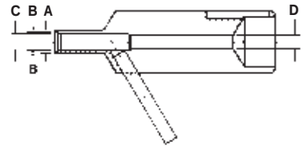
Handle Grips

Ordering No.	Grip Type	Used On
202464	Round inline	2 series
869734	Round inline	5 series
203621	Tri-roundular inline	5 series
202346	Round inline	8 series push-to-start
203762	Pistol grip	5 series
203833	Pistol grip	8, 88, 35 series

Vacuum Finders and Pick-Up Attachment

Vacuum pick-up attachment (Part No. 201101) includes inlet tee, vacuum transducer with muffler, air inlet hose and vacuum hose.

NOTE:
Vacuum finders mate with 3 inch long flat and Phillips bits.



For Use with Cleco Series	Screw Size	Part Number	Dimensions (inches) A	B	C	D
2	1F-2R	202411	.220	.168	5/32	.125
2	2F-3R	202412	.250	.195	11/64	.137
5, 14	3F-4R	202414	.285	.227	3/16	.157
5, 14	4F-5R	202415	.315	.258	7/32	.190
5, 14	5F-6R	202416	.345	.290	1/4	.218
8	6F-8R	202417	.380	.322	9/32	.253
8	8F-10R	202418	.445	.385	5/16	.278
8	10F-12R	202419	.530	.450	11/32	.315
8	12F-14R	202420	.590	.512	13/32	.363

Suspension Bails

Ordering No.	Used On
869168	2 series
865777	5 series inline & 8, 88 series inline push-to-start
412603	5 series pistol grip & 8, 88 series inline lever start

Piped Away Exhaust Hose Adapter

Ordering No.	Used On
203632	5 series inline
203808	8, 88 35 series inline push-to-start

Screw Sizes & Types

Screw Size	Approximate Thread Body Diameter (inches)	Maximum Head Diameter (inches) Round Head	Flat Head	Oval Head	Fillister Head	Pan Head	Binding Head	Truss Head	Width of Slot Max.-Min. (inches)
0	.058	.113	.119	.119	.096	.116	–	.131	.023-.016
1	.071	.138	.146	.146	.118	.142	_	.164	.026-.019
2	.084	.162	.172	.172	.140	.167	.181	.194	.031-.023
3	.096	.187	.199	.199	.161	.193	.208	.226	.035-.027
4	.109	.211	.225	.225	.183	.219	.235	.257	.039-.031
5	.122	.236	.252	.252	.205	.245	.263	.289	.043-.035
6	.135	.260	.279	.279	.226	.270	.290	.321	.048-.039
8	.161	.309	.332	.332	.270	.322	.344	.384	.054-.045
10	.187	.359	.385	.385	.313	.373	.399	.448	.060-.050
12	.213	.408	.438	.438	.357	.425	.454	.511	.067-.056
1/4	.247	.472	.507	.507	.414	.492	.513	.573	.075-.064
5/16	.309	.590	.635	.635	.518	.615	.641	.698	.084-.072

Torque Verifiers & Analyzers

Cleco TVP-100 Series Torque Verifier

- Verifies fastener installation with *OK/NOK* audio and visual indicators
- On screen verification of individual fastener assembly status with batch count
- VGA screen displays graph for each rundown
- Stores 1,000 rundowns
- Sequencing capability
- 8 parameter sets available for multiple applications
- “Auto Cal” permits fast and easy tool set up for any joint type
- Password protected
- Includes transducer kit and power cable

Cleco TVP-100 Series Torque Verifier

Model Number			Weight		Width		Height		Depth	
115VAC*	230VAC**	Language	lbs.	kg	in.	mm	in.	mm	in.	mm
TVP-110-15-U	TVP-110-30-U	English	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-D	TVP-110-30-D	German	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-S	TVP-110-30-S	Spanish	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-P	TVP-110-30-P	Portuguese	6	2.72	8.75	222	9.13	232	4.13	105

** 115V units are UL and CVL approved.*
*** 230V units are CE compliant.*

All model numbers include power cable, air signal transducer, 25 foot cable to connect TVP to air signal transducer, and 8 foot air line to connect transducer to tool.

NOTE: *Tool must be equipped with torque signal kit.*

24 Volt Inputs/Outputs:
Inputs: Up to 8 Applications, Reset, Suspend
Outputs: Cycle Accept, Batch Accept, Reject

TVP-100 Accessories

Torque Signal Kits

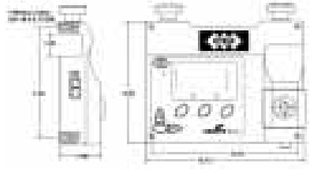
Part No.	Tool Used On
301106	14SCA and 14RAA series
301118	14TTA series
301119	14PTA series
201900	24RAA and 34RAA series
934918	PTH series pulse tools

Phoenix Connector

Part No.	Description
542892	24 Volt Input/Output Phoenix connector
939348	Strain relief for above connector

Utica TA4 Torque Analyzers

110V Model	220V Model	Torque Range		Square Dr.	
		English	Metric	In.	mm
TA4-05B-1	TA4-05B-2	5–50 in.-lb.	.56–5.64 Nm	1/4	6.35
TA4-10B-1	TA4-10B-2	10–100 in.-lb.	1.13–11.29 Nm	1/4	6.35
TA4-05F-1	TA4-05F-2	5–50 ft.-lb.	6.78–67.79 Nm	3/8	9.53
TA4-25F-1	TA4-25F-2	25–250 ft.-lb	33.90–338.95 Nm	1/2	12.7



**Each TA4 unit comes complete with the appropriate rundown adapter, power supply, RS-232 cable.*

TA4 Accessories

Run Down Adapters*

Part No.	English	Metric	Sq. Drive
01-9232	5–50 in.-lb	56–564 cNm	1/4”
01-9233	10-100 in.-lb	112-1129 cNm	1/4”
01-9240	5-50 ft.-lb.	6-67 Nm	3/8”
01-9242	25-250 ft.-lb.	33-338 Nm	1/2”

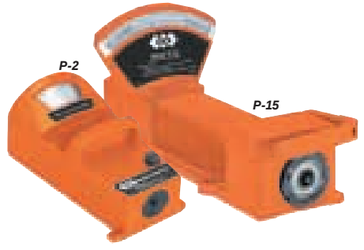
Square drives conform to ASME B107 standards for proper fit with transducer.

Power Supplies*

Part No.	
01-9201	110V power supply for all TA4 systems
01-9202	220V power supply for all TA4 systems

Cables

Part No.	
01-9205*	RS-232 Cable
207237	115V Transducer and cable
207238	230V Transducer and cable



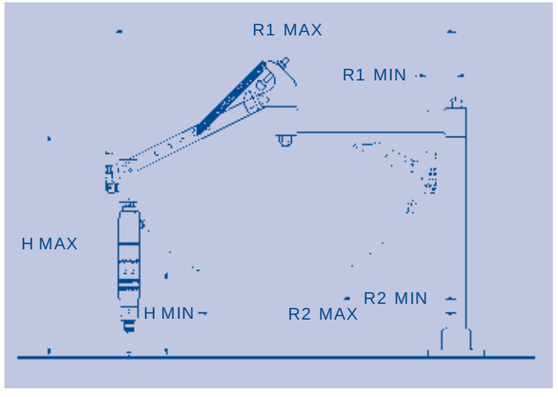
Utica P-2 & P-15 Torque Analyzers

Model No.	Graduations	Capacity	Height		Width		Length		Weight		Ordering No.
			In.	mm	In.	mm	In.	mm	Lb.	kg	
P-2B	.5 in.-lbs.	20-2 in.lbs.	5.6	143	7.3	184	12	305	18	8.2	810681
MP-2B (metric)	.5 cm-kg	22-2 cm-kg	5.6	143	7.3	184	12	305	18	8.2	810682
P-15	2 in.-lbs.	150-5 in.lbs.	8	203	5	127	18	457	23	10.4	810002
MP-15 (metric)	5 cm-kg	180-5 cm-kg	8	203	5	127	18	457	23	10.4	810151

GENERAL
Drive Size: 1/4” male hex (P-2 series)
5/16”male hex (P-15 series)

Balance Arm Operating Envelope

MODEL	R1 MAX		R1 MIN		R2 MAX		R2 MIN		H MAX		H MIN	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
SBA-12	24	610	2	51	18	457	8	203	15	381	6	152
SBA-18	30	762	6	152	20	508	7	178	15	381	0	0
PBA-12	26	660	3	76	20	508	7	178	17	432	8	203
PBA-18	32	813	8	203	22	559	6	152	17	432	2	51



Cleco®

Screwdriver balance arms absorb torque, support weight and improve productivity.

Cleco balance arms are engineered to deliver longer service life using durable components, rugged design and operator-sensitive features.

These arms absorb the torque produced by the screwdriver, eliminating torque reaction to the operator. Balanced by springs or air cylinders, the arm and not the operator supports the weight of the tool. By reducing the fatigue factors, the operator productivity is improved.

Tool movement and placement over the fastener is virtually effortless since most moving parts of the balance arm are mounted on ball bearings. Access to the tool is easily changeable by adjusting the springs or cylinder supporting the forearm.

Arm components and materials are selected for strength and rigidity. Precision aluminum sand castings used in the articulating arm section are light but sturdy.

Over 60 models of the Cleco screwdriver balance arms are available. Air cylinder models are capable of supporting tools weighing up to 10 lbs. (4.5 kg.). Spring models will support tools weighing up to 5 lbs. (2.3 kg.). Both styles have torque capacities of 10 ft. lbs. (13.5 Nm). Arms can be post mounted, wall mounted or mounted on an adjustable height post. Tool holders for all models will accommodate most major brands of air tools...straight and pistol.

Tool Holders

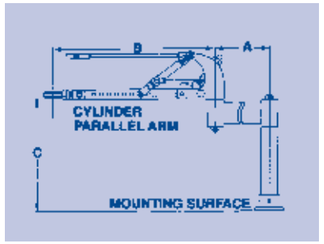
Selecting the proper tool holder for the tool used on Cleco balance arms enhances the ergonomic benefits of the arm. Tool holders allow the tool to swing, swivel and rotate, enabling the operator to work more comfortably and productively.

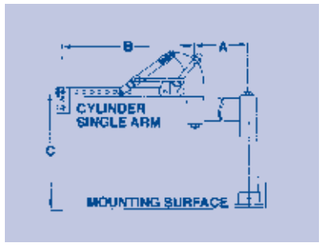
Standard and extended tool holders are available for parallel balance arms. Both models hold the tool perpendicular to the work, and are ideal for self-tapping and thread forming applications. Tool diameter capacity is up to 1 3/4 inch (45mm).

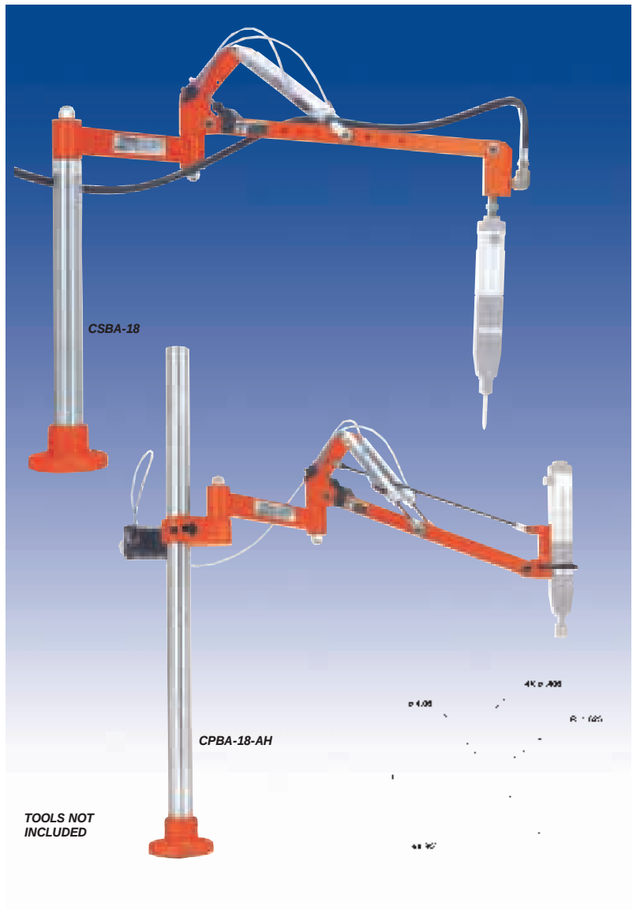
Manifold tool holders used on SBA and CSBA balance arms suspend the tool from the air inlet. They allow the tool to swing (or swivel when equipped with the optional swivel assembly) for ease of tool movement.

Cleco®

- Ball bearing construction
- Supports tools weighing up to 10 lbs.
- Post, wall, or adjustable height post mounting
- Single or parallel arms







Single Arms		Parallel Arms		Dimensions							
Model No.	Code No.	Model No.	Code No.	A		B		C		Post Height	
				in.	mm	in.	mm	in.	mm	in.	mm
CSBA-18	520160	CPBA-18	520170	12	305	18	457	18	457	-	-
CSBA-24	520200			12	305	24	610	18	457	-	-
CSBA-30	520201	CPBA-30	520203	12	305	30	762	18	457	-	-
CSBA-12-AH	520165	CPBA-12-AH	520178	12	305	12	305	-	-	30	762
CSBA-18-AH	520162	CPBA-18-AH	520172	12	305	18	457	-	-	30	762
CSBA-30-AH	520167	CPBA-30-AH	520215	12	305	30	762	-	-	30	762
		CPBA-30-WM	520207	12	305	30	762	-	-	-	-

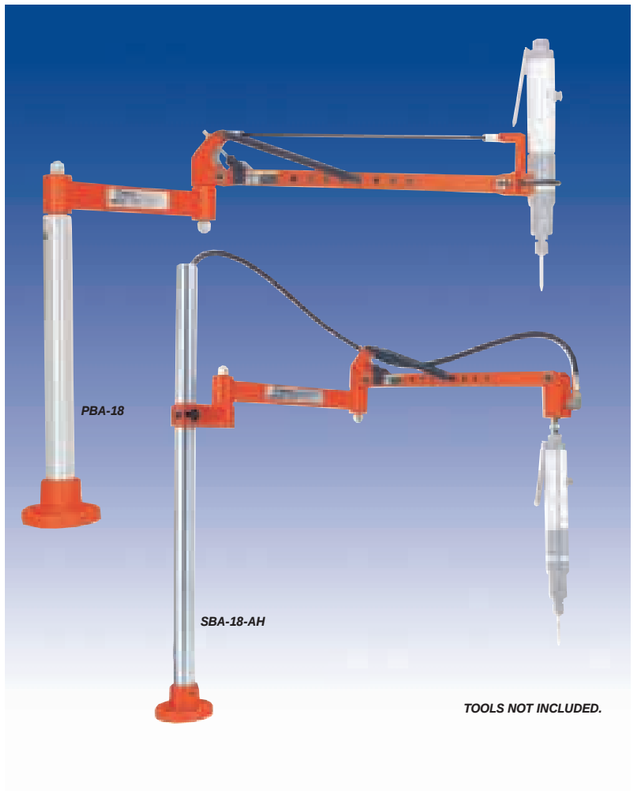
AH = Adjustable Height
WM = Wall Mounted
Tool weight capacity: 10 lbs. (4.6 kg)
Torque capacity: 10 ft. lbs. (13.5 Nm)

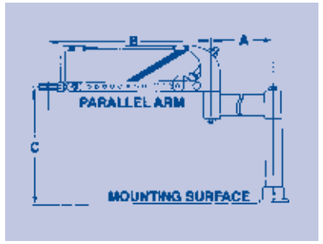
STANDARD EQUIPMENT
Operating Instructions and Service Manual.
Regulator for Air Cylinders.
Threaded Nipples for CSBA Models
1/4 NPT Hex Nipple: 204032
1/4 NPT x 1/8 NPT Hex Reducer Nipple: 204137

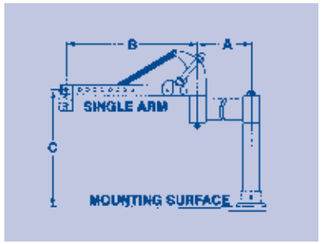
OPTIONAL EQUIPMENT
Additional accessories: See page 30.

Cleco®

- Ball bearing construction
- Supports tools weighing up to 5 lbs.
- Post, wall, or adjustable height post mounting
- Single or parallel arms







Single Arms		Parallel Arms		Dimensions							
Model No.	Code No.	Model No.	Code No.	A		B		C		Post Height	
				in.	mm	in.	mm	in.	mm	in.	mm
SBA-12	520001	PBA-12	520007	12	305	12	305	18	457	-	-
SBA-18	520004	PBA-18	520010	12	305	18	457	18	457	-	-
		PBA-24	520045	12	305	24	610	18	457	-	-
SBA-12-AH	520003	PBA-12-AH	520009	12	305	12	305	-	-	30	762
SBA-18-AH	520006	PBA-18-AH	520012	12	305	18	457	-	-	30	762
SBA-24-AH	520110	PBA-24-AH	520047	12	305	24	610	-	-	30	762
SBA-30-AH	520044	PBA-30-AH	520050	12	305	30	762	-	-	30	762
		PBA-18-18-AH	520036	18	457	18	305	-	-	30	762
		PBA-12-WM	520008	12	305	12	305	-	-	-	-
SBA-30-WM	520043			12	305	30	762	-	-	-	-

AH = Adjustable Height
WM = Wall Mounted
Tool weight capacity: 5 lbs. (2.3 kg)
Torque capacity: 10 ft. lbs. (13.5 Nm)

STANDARD EQUIPMENT
Operating Instructions and Service Manual.
Threaded Nipples for SBA Models
1/4 NPT Hex Nipple: 204032
1/4 NPT x 1/8 NPT Hex Reducer Nipple: 204137

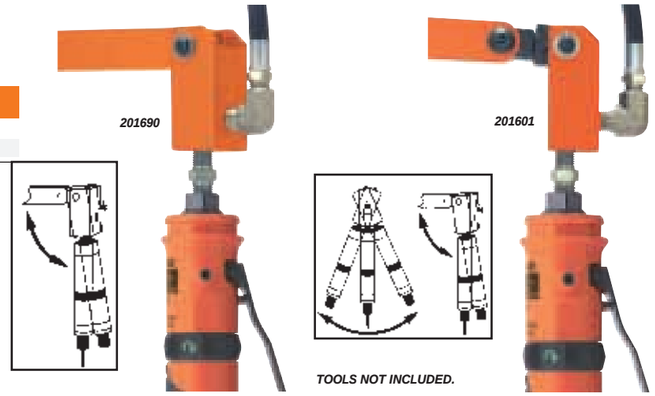
OPTIONAL EQUIPMENT
Additional accessories: See page 30.

Balance Arms

Single Arm Tool Holders

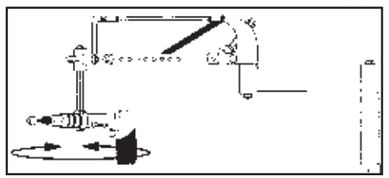
Part No.	Description
201690*	Manifold tool holder
201601*	Swivel manifold tool holder

*Use of 201601 requires 201690.

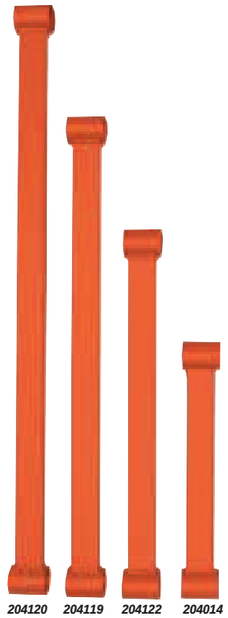


Parallel Arm Tool Holders

Part No.	Description
204015	Parallel tool holder
204167	Extended parallel tool holder
201607	Swivel tool holder (small)
201608	Swivel tool holder (large)



Articulating Arm Extensions

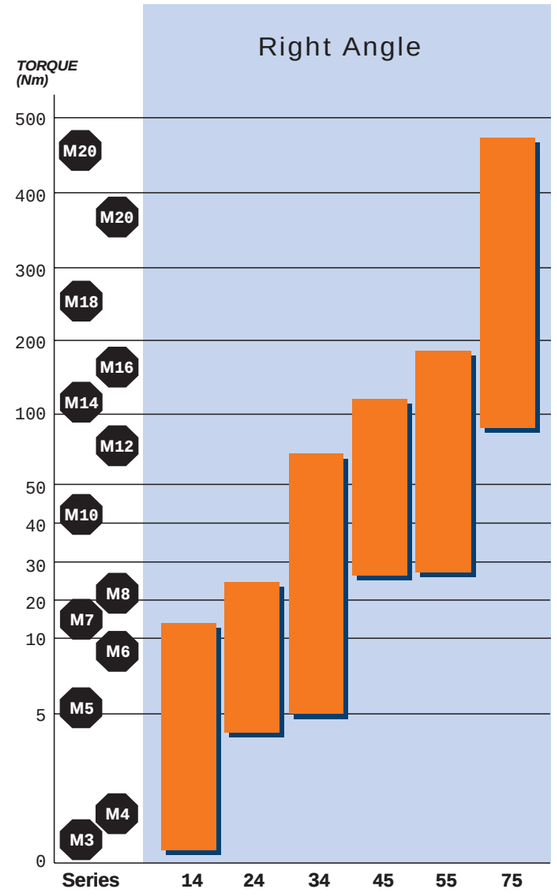


Part No.	Length (in.)
204014	12
204122	18
204119	24
204120	30

Conversion Kits for Cleco Screwdriver Balance Arms

To Convert Balance Arms		Part No.
From	To	
SBA-12	PBA-12*	521041
SBA-18	PBA-18*	521042
Spring	Cylinder	201606
SBA or PBA	SBA or PBA	
Standard Duty	Heavy Duty**	521060

* Conversion kits for -24 and -30 models are available upon request.
** Has four springs to support heavier tools or longer arms.



Cleco®

Selecting Your Cleco Nutrunner

Cleco offers over 500 nutrunners, most of which can be equipped with a wide variety of drive options. This generates over 3,000 different nutrunner combinations, allowing the exact tool with precise features to be chosen for specific job applications.

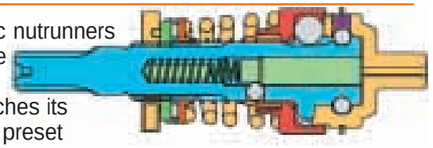
The following items should be considered before selecting the tool: ergonomic factors associated with the man/tool/task relationship, torque and speed requirements, tool and fastener accessibility, fastener joint variations, operator skill level and air supply.
Tool performance can be affected by air supply. Plant air line pressure to the tool will vary widely due to several factors: distance of tool from compressor; size of transmission lines, air drops, manifolds, hose length and diameter, and fittings. All power tool specifications are based on the tool receiving air at 90 p.s.i.g. (6.2 bar) with adequate air flow volume while the tool is running.

Clean Operation

Many Cleco angle nutrunners are equipped with oilless blades. This is a very important feature where a clean assembly operation is critical.

Angle Nutrunners

Clecomatic Nutrunners



Clecomatic nutrunners shut off the instant the clutch reaches its adjustable preset torque. This action provides an accurate method of controlling torque without sacrificing tool speed.

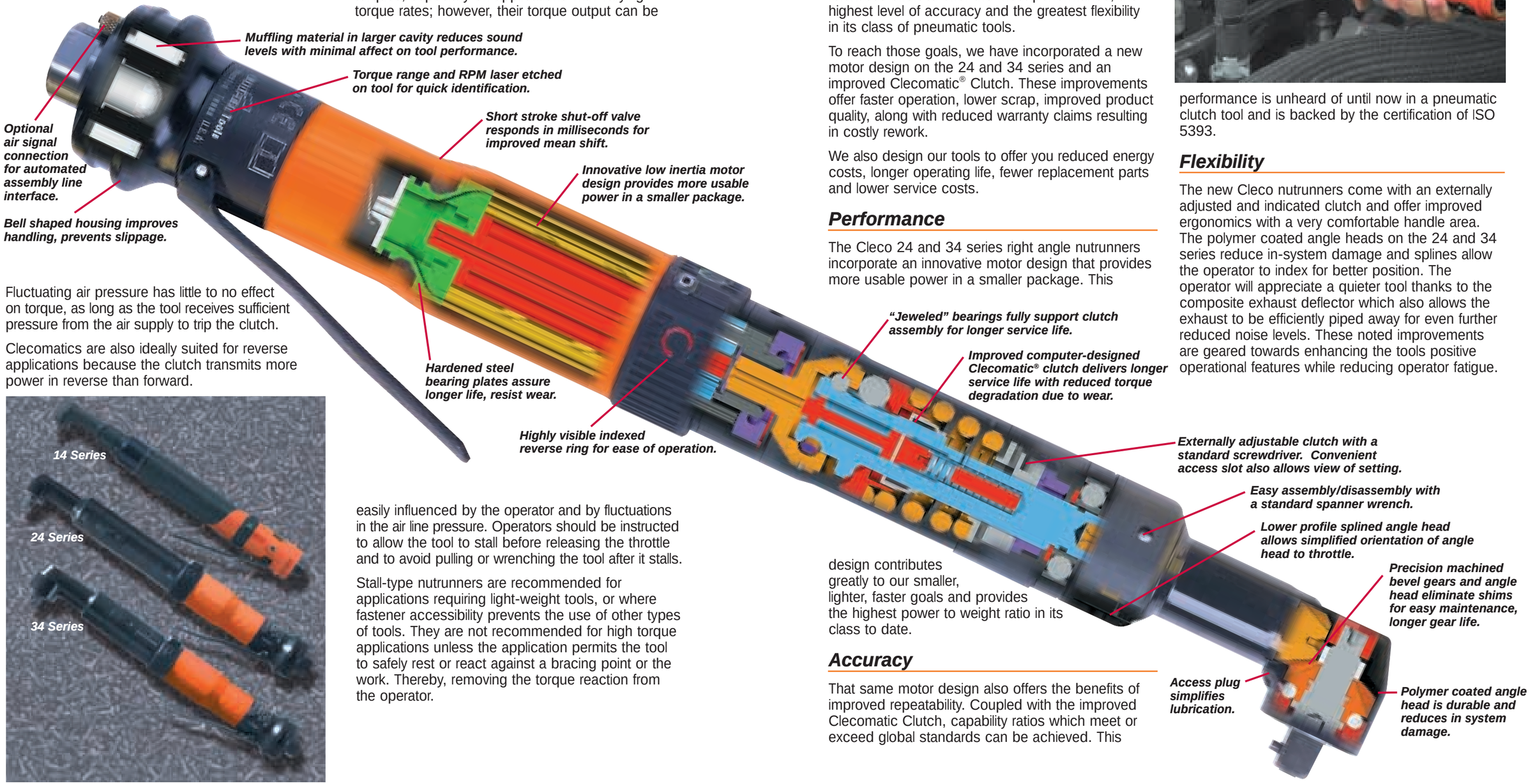
Fluctuating air pressure has little to no effect on torque, as long as the tool receives sufficient pressure from the air supply to trip the clutch.

Clecomatics are also ideally suited for reverse applications because the clutch transmits more power in reverse than forward.

Stall Nutrunners

Stall-type nutrunners consist of an air motor connected to the output spindle by planetary gearing and angle heads. In operation, the tool runs down the fastener until the torque resistance in the fastener causes the tool to stall. When the tool stalls, the throttle is released by the operator and the tool is removed. Stall-type tools can produce accurate torques, especially on applications with varying torque rates; however, their torque output can be easily influenced by the operator and by fluctuations in the air line pressure. Operators should be instructed to allow the tool to stall before releasing the throttle and to avoid pulling or wrenching the tool after it stalls.

Stall-type nutrunners are recommended for applications requiring light-weight tools, or where fastener accessibility prevents the use of other types of tools. They are not recommended for high torque applications unless the application permits the tool to safely rest or react against a bracing point or the work. Thereby, removing the torque reaction from the operator.


Muffling material in larger cavity reduces sound levels with minimal affect on tool performance.
Torque range and RPM laser etched on tool for quick identification.
Optional air signal connection for automated assembly line interface.
Short stroke shut-off valve responds in milliseconds for improved mean shift.
Innovative low inertia motor design provides more usable power in a smaller package.
Bell shaped housing improves handling, prevents slippage.
"Jeweled" bearings fully support clutch assembly for longer service life.
Improved computer-designed Clecomatic® clutch delivers longer service life with reduced torque degradation due to wear.
Hardened steel bearing plates assure longer life, resist wear.
Highly visible indexed reverse ring for ease of operation.
Externally adjustable clutch with a standard screwdriver. Convenient access slot also allows view of setting.
Easy assembly/disassembly with a standard spanner wrench.
Lower profile splined angle head allows simplified orientation of angle head to throttle.
Precision machined bevel gears and angle head eliminate shims for easy maintenance, longer gear life.
Access plug simplifies lubrication.
Polymer coated angle head is durable and reduces in system damage.

The New Cleco Right Angle Solution

The Cleco 14, 24 and 34 series pneumatic nutrunners are the most recent additions to our line of smaller, lighter and faster tools. Designed for M3-M10 fasteners, these powerful new right angle clutch tools cover a wide torque range from .5 to 68 NM. We continue to drive our line into the best power to weight ratio of any other tool in the market, in a relentless effort to offer the most performance, the highest level of accuracy and the greatest flexibility in its class of pneumatic tools.

To reach those goals, we have incorporated a new motor design on the 24 and 34 series and an improved Clecomatic® Clutch. These improvements offer faster operation, lower scrap, improved product quality, along with reduced warranty claims resulting in costly rework.

We also design our tools to offer you reduced energy costs, longer operating life, fewer replacement parts and lower service costs.

Performance

The Cleco 24 and 34 series right angle nutrunners incorporate an innovative motor design that provides more usable power in a smaller package. This design contributes greatly to our smaller, lighter, faster goals and provides the highest power to weight ratio in its class to date.

Accuracy

That same motor design also offers the benefits of improved repeatability. Coupled with the improved Clecomatic Clutch, capability ratios which meet or exceed global standards can be achieved. This performance is unheard of until now in a pneumatic clutch tool and is backed by the certification of ISO 5393.

Flexibility

The new Cleco nutrunners come with an externally adjusted and indicated clutch and offer improved ergonomics with a very comfortable handle area. The polymer coated angle heads on the 24 and 34 series reduce in-system damage and splines allow the operator to index for better position. The operator will appreciate a quieter tool thanks to the composite exhaust deflector which also allows the exhaust to be efficiently piped away for even further reduced noise levels. These noted improvements are geared towards enhancing the tools positive operational features while reducing operator fatigue.

Cleco®

14 Series

Torque Range:
0.5 – 11 Nm
4.0 – 100 In. Lbs

Screw Size:
M3.5 – M6
#8 – 1/4”

- External torque adjustment
- Lever start
- Sliding knob reverse

Model Number		Bolt Size		Free Speed	Torque Range*		Length		Weight		Head Height		Side to Center	
		Gr.5	Gr.9.8											
1/4” Square Drive	3/8” Square Drive	in.	mm	RPM	in.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
Lever Start - Reversible – Clecomatic Clutch														
14RAA02AM2		#8	M3.5	2400	4 - 19	.5 - 2.1	11.68	297	1.7	0.77	1.06	27	0.36	9
14RAA02AH2	14RAA02AH3	#8	M3.5	2100	4 - 21	.5 - 2.4	12.11	308	1.8	0.82	1.19	30	0.50	13
14RAA03AL2		#8	M3.5	570	4 - 25	.5 - 2.8	12.04	306	1.8	0.82	0.94	24	0.31	8
14RAA03AM2		#8	M3.5	1650	4 -27	.5 - 3.0	11.88	302	1.8	0.82	1.06	27	0.36	9
14RAA03AH2	14RAA03AH3	#10	M4	1450	4 -30	.5 - 3.4	12.31	313	1.9	0.86	1.19	30	0.50	13
14RAA04AM2		#10	M4	950	4 - 43	.5 - 4.8	11.68	297	1.7	0.77	1.06	27	0.36	9
14RAA05AM2		#10	M4	570	4 - 50	.5 - 5.7	12.08	307	1.8	0.82	1.06	27	0.36	9
14RAA06AH2*	14RAA06AH3	#10	M4	850	4 - 53	.5 - 6.0	12.11	308	1.8	0.82	1.19	30	0.50	13
14RAA07AH2*	14RAA07AH3	#10	M5	500	4 - 60	.5 - 6.8	12.51	318	1.9	0.86	1.19	30	0.50	13
14RAA09AH2*	14RAA09AH3	1/4	M5	500	10 - 75	1.1 - 8.5	13.39	340	2.1	0.95	1.19	30	0.50	13
14RAA11AH2*	14RAA11AH3	1/4	M6	340	10 - 100	1.1 - 11	13.59	345	2.2	1.00	1.19	30	0.50	13
14RAA12AH2*	14RAA12AH3	1/4	M6	200	10 - 100	1.1 - 11	13.39	340	2.1	0.95	1.19	30	0.50	13

*AH2 head max torque 50 in. lbs.

GENERAL:
Air Inlet: 1/8” NPT
Minimum Hose Size: 3/16”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual.
Suspension bail.
All torque springs required to meet indicated torque specification.

OPTIONAL EQUIPMENT:
Non-Reverse Kit: 207030
Torque Signal Kit: 301106 (Clecomatic clutch only)
Overhose: 207019
Quick Change and 1/4” magnetic hex outputs available on AH3 models only.
Quick Change: Change AH3 to AHQ
1/4” Magnetic Hex: Change AH3 to AHM
Additional accessories: Page 57

Cleco®

24, 34 Series

Torque Range:
4.0 – 75 Nm
3.0 – 55 Ft. Lbs.

Bolt Size:
M4 – M10
#10 – 7/16”

- External torque adjustment
- 3/8” and 1/2” square drive
- Indexable anglehead
- One torque spring to meet specified range
- Oilless blades

Model Number		Bolt Size		Free Speed	Torque Range*		Length		Weight		Head Height		Side to Center	
		Gr.5	Gr.9.8											
3/8” Square Drive	1/2” Square Drive	in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
24 Series Lever Start – Reversible														
24RAA06AL3		#10	M4	2200	3-4	4-5.5	14.1	358	2.6	1.2	1.08	27.5	.47	12.0
24RAA07AL3		#10	M5	1770	3-5	5-7	14.1	358	2.6	1.2	1.08	27.5	.47	12.0
24RAA11AL3		1/4	M6	1260	5-8	7-11	14.1	358	2.6	1.2	1.08	27.5	.47	12.0
24RAA12AM3		1/4	M6	1200	5-9	6-12	14.2	360	2.8	1.3	1.16	29.5	.52	13.2
24RAA19AM3		5/16	M6	700	7-14	10-19	15.0	380	3.2	1.4	1.16	29.5	.52	13.2
24RAA23AM3		5/16	M6	600	9-17	12-23	15.0	380	3.2	1.4	1.16	29.5	.52	13.2
34 Series Lever Start – Reversible														
34RAA08AL3		1/4	M5	2060	4-6	8-5	14.5	368	2.7	1.2	1.08	27.5	.47	12.0
34RAA11AL3		1/4	M6	1675	5-8	7-11	14.5	368	2.7	1.2	1.08	27.5	.47	12.0
34RAA15AM3		1/4	M6	1185	7-11	9-15	14.6	370	2.9	1.3	1.16	29.5	.52	13.2
34RAA26AH3		5/16	M8	710	10-19	13-26	15.4	390	3.2	1.5	1.22	31.0	.57	14.4
34RAA28AH3		5/16	M8	580	10-20	14-28	15.4	390	3.3	1.5	1.22	31.0	.57	14.4
34RAA33AX3		3/8	M8	545	12-24	17-33	15.5	393	3.5	1.6	1.36	34.5	.67	17.1
34RAA37AX3		3/8	M8	480	14-27	18-37	15.6	397	3.4	1.5	1.36	34.5	.67	17.1
34RAA47AX3		3/8	M8	385	17-35	24-47	15.6	397	3.4	1.5	1.36	34.5	.67	17.1
34RAA68AZ3		7/16	M10	255	25-50	34-68	16.2	411	3.7	1.7	1.60	41.0	.70	18.0
34RAA75AZ3		7/16	M10	155	28-55	38-75	17.0	431	3.9	1.8	1.60	41.0	.70	18.0
	34RAA68AZ4	7/16	M10	255	25-50	34-68	16.2	411	3.7	1.7	1.60	41.0	.70	18.0
	34RAA75AZ4	7/16	M10	155	28-55	38-75	17.0	431	3.9	1.8	1.60	41.0	.70	18.0

GENERAL:
Air Inlet: 3/8” NPT
Minimum Hose Size: 5/16”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool

OPTIONAL EQUIPMENT:
Assembly wrench: 201898
Torque signal kit: 201900
Non-reversible kit: 204999
Additional accessories: Page 57

Cleco®

45 Series

Torque Range:
28 – 115 Nm
21 – 85 Ft. Lbs.

Bolt Size:
M10 – M12
7/16 – 1/2”

- Button start
- Twist ring and non-reversible
- External torque adjustment

Model Number	Bolt Size		Free Speed	Torque Range		Length		Weight		Head Height		Side to Center		Angle Head
	GR.5	GR. 9.8												
1/2” Square Drive	in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lb	kg	in.	mm	in.	mm	
Clecomatic – Button Start – Twist Ring Reverse														
45RNAB-4T-4	7/16	M10	300	21-42	28-57	17.6	448	6.8	3.1	2.0	50	0.9	22	T
45RNAB-3P-4	7/16	M10	240	26-52	35-71	17.5	445	6.4	2.9	1.6	41	0.7	18	P
45RNAB-3T-4	7/16	M10	200	31-62	42-84	17.6	448	6.8	3.1	2.0	50	0.9	22	T
45RNAB-2P-4	1/2	M12	180	34-71*	46-96*	17.5	445	6.4	2.9	1.6	41	0.7	18	P
45RNAB-2T-4	1/2	M12	150	37-85	50-115	17.6	448	6.8	3.1	2.0	50	0.9	22	T
Clecomatic – Button Start – Non-Reversible														
45NAB-3P-4	7/16	M10	300	28-57	38-77	17.5	445	6.3	2.8	1.6	41	0.7	18	P

* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

GENERAL:
Air Inlet: 3/8” NPT
Minimum Hose Size: 3/8”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
All torque springs required to meet indicated torque specification

OPTIONAL EQUIPMENT:
Additional accessories: Page 57

Cleco®

55, 75 Series

Torque Range:
32 – 430 Nm
24 – 320 Ft. Lbs.

Bolt Size:
M10 – M16
7/16 – 3/4”

- Lever start
- External torque adjustment
- Rotating exhaust deflector

Model Number		Bolt Size		Free Speed	Torque Range		Length		Weight		Head Height		Side to Center		Angle Head
1/2” Square Drive	3/4” Square Drive	GR. 5	GR. 9.8												
		in	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm	
Lever Start – Twist Ring Reverse															
55RNAL-6T-4		7/16	M10	370	24-48	32-65	19.3	489	7.8	3.5	2.0	50	0.9	22	T
55RNAL-4P-4		7/16	M10	330	26-54	35-73	19.1	486	7.4	3.3	1.6	41	0.7	18	P
55RNAL-4T-4		1/2	M10	280	29-64	39-87	19.3	489	7.8	3.5	2.0	50	0.9	22	T
55RNAL-3P-4		1/2	M12	220	36-80*	49-109*	19.1	486	7.4	3.3	1.6	41	0.7	18	P
55RNAL-3T-4		9/16	M12	190	43-95	58-129	19.3	489	7.8	3.5	2.0	50	0.9	22	T
55RNAL-2T-4		5/8	M14	140	60-125*	81-170*	19.3	489	7.8	3.5	2.0	50	0.9	22	T
75RNAL-3V-4		5/8	M14	175	70-140	95-190	21.9	556	13.3	6.0	2.5	64	1.1	28	V
75RNAL-2V-4		5/8	M16	130	90-190*	122-255*	21.9	556	13.3	6.0	2.5	64	1.1	28	V
	75RNAL-3X-6	3/4	M16	110	110-225	150-305	22.6	575	15.0	6.8	2.8	70	1.4	37	X
	75RNAL-2X-6	3/4	M16	80	150-305	203-410	22.6	575	15.0	6.8	2.8	70	1.4	37	X
Lever Start – Non-Reversible															
55NAL-4P-4		7/16	M10	480	28-57	28-77	19.1	486	7.3	3.3	1.6	41	72.0	18	P
55NAL-4T-4		1/2	M12	400	33-69	39-93	19.3	489	7.6	3.5	2.0	50	0.9	22	T
55NAL-3P-4		1/2	M12	320	39-84*	49-114*	19.1	486	7.3	3.3	1.6	41	72.0	18	P
55NAL-3T-4		9/16	M12	270	45-100	58-136	19.3	489	7.6	3.5	2.0	50	0.9	22	T
55NAL-2T-4		5/8	M14	200	55-130*	68-176*	19.3	489	7.6	3.5	2.0	50	0.9	22	T
75NAL-2V-4		5/8	M16	210	100-200	135-271	21.9	556	13.0	5.9	2.5	64	1.1	28	V
	75NAL-2X-6	3/4	M16	130	160-320	215-430	22.6	575	14.8	6.7	2.8	70	1.4	37	X

* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

GENERAL:
Air Inlet: 1/2” NPT
Minimum Hose Size: 1/2”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Torque Reaction Mounting Plate (75 series)
All torque springs required to meet indicated torque specification

OPTIONAL EQUIPMENT:
Additional accessories: Page 57

Stall – Reversible

Cleco®

14, 24, 34, 45, 55, 75 Series

Maximum Torque Range:
3.2 – 440 Nm
2 – 325 Ft. Lbs.

Bolt Size:
M3.5 – M16
#8 – 3/4”

- **Button, lever start**
- **Sliding knob, twist ring and button reverse**

Model Number	Square Drive	Bolt Size GR.5	Bolt Size GR.9.8	Free Speed	Max. Torque		Length		Weight		Head Height		Side to Center	
	in.	in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
Button Start – Twist Ring Reverse														
45RNB-4T-4	1/2	7/16	M10	310	46	62	15.1	384	5.5	2.5	2.0	50	0.9	22
45RNB-3P-4	1/2	7/16	M10	250	58	79	15.0	381	5.1	2.3	1.6	41	0.7	18
45RNB-3T-4	1/2	1/2	M12	210	69	94	15.1	384	5.5	2.5	2.0	50	0.9	22
45RNB-2T-4	1/2	9/16	M12	160	92	125	15.1	384	5.5	2.5	2.0	50	0.9	22
Lever Start - Sliding Knob Reverse														
14RAS03AM2	1/4	#8	M3.5	1700	2.3	3.2	11.4	289	1.3	0.6	1.1	27	0.4	9
14RAS04AH2	1/4	#10	M4	1250	2.7*	3.6*	11.2	284	1.4	0.6	1.2	30	0.5	13
14RAS05AM2	1/4	#10	M4	850	3.8	5.2	10.6	268	1.2	0.5	1.1	27	0.4	9
14RAS06AH3	3/8	#10	M4	880	4.6	6.2	11.0	279	1.3	0.6	1.2	30	0.5	13
Lever Start – Twist Ring Reverse														
34RAS11AL3	3/8	1/4	M5	1675	8.1	11	12.0	305	2.1	1.0	1.1	28	0.5	12
24RAS13AM3	3/8	1/4	M6	1200	9.6	13	11.7	297	2.2	1.0	1.2	30	0.5	13
34RAS28AH3	3/8	5/16	M8	710	20	28	12.9	328	2.6	1.2	1.2	31	0.6	14
34RAS36AX3	3/8	3/8	M8	545	26	36	13.0	330	2.8	1.3	1.4	35	0.7	17
55RNL-7T-4	1/2	7/16	M10	490	41	56	16.1	410	6.1	2.8	2.0	50	0.9	22
55RNL-3T-4	1/2	9/16	M12	195	100*	136*	16.8	425	6.5	2.9	2.0	50	0.9	22
55RNL-2T-4	1/2	5/8	M14	145	130*	176*	16.8	425	6.5	2.9	2.0	50	0.9	22
75RNL-3V-4	1/2	5/8	M14	190	155	210	19.4	492	11.4	5.2	2.5	64	1.1	28
75RNL-3X-6	3/4	3/4	M16	120	245	330	20.1	511	13.1	6.0	2.8	70	1.4	37
75RNL-2X-6	3/4	3/4	M16	90	325	440	20.1	511	13.1	6.0	2.8	70	1.4	37

* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

GENERAL:
Air Inlet: 3/8” NPT (24, 34, 45 series); 1/8” NPT (14 series); 1/2” NPT (55, 75 series)
Minimum Hose: 3/8” (45 series); 3/16” (14 series); 5/16” (24, 34 series); 1/2” (55, 75 series)
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail (14 series)
Torque reaction mounting plate (75 series)

OPTIONAL EQUIPMENT:
14 Series: Non-Reverse Kit: 207030
Overhose: 207019
Quick Change and 1/4” magnetic hex outputs available on AH3 models only.
Quick Change: Change AH3 to AHQ
1/4” Magnetic Hex: Change AH3 to AHM
24/34 Series: Assembly wrench: Non-reverse kit 201898 204999
Additional accessories: Page 57

Stall – Non Reversible

Cleco®

55, 75 Series

Maximum Torque Range:
6.2 – 475 Nm
4.6 – 350 Ft. Lbs.

Bolt Size:
M4 – M16
#10 – 3/4”

- **Lever start**

Model Number	Square Drive	Bolt Size GR.5	Bolt Size GR.9.8	Free Speed	Max. Torque		Length		Weight		Head Height		Side to Center	
	in.	in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
Lever Start														
55NL-3T-4	1/2	9/16	M14	290	110*	149*	16.8	425	6.4	2.9	2.0	50	0.9	22
55NL-2T-4	1/2	5/8	M16	210	150*	203*	16.8	425	6.4	2.9	2.0	50	0.9	22
75NL-3V-4	1/2	5/8	M16	300	165	225	19.4	492	11.1	5.0	2.5	64	1.1	28
75NL-2V-4	1/2	3/4	M16	230	220*	298*	19.4	492	11.1	5.0	2.5	64	1.1	28
75NL-2X-6	3/4	3/4	M16	140	350	475	20.1	511	12.9	5.8	2.8	70	1.4	37

* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

GENERAL:
Air Inlet: 1/2” NPT (55, 75 series)
Minimum Hose Size: 1/2” (55, 75 series)
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Torque Reaction Mounting Plate (75 series)

OPTIONAL EQUIPMENT:
Additional accessories: Page 57
Safety Lever: 201638

Smaller, Faster, Lighter

Cleco proudly introduces the new 64 Series Swingbar Nutrunners. For high torque applications where a small tool is necessary, for consistency in clamp load across joint types or for simply eliminating the maintenance needs of an angle tool, the new 64 Series tools provide the best solution for today's heavy assembly environment.

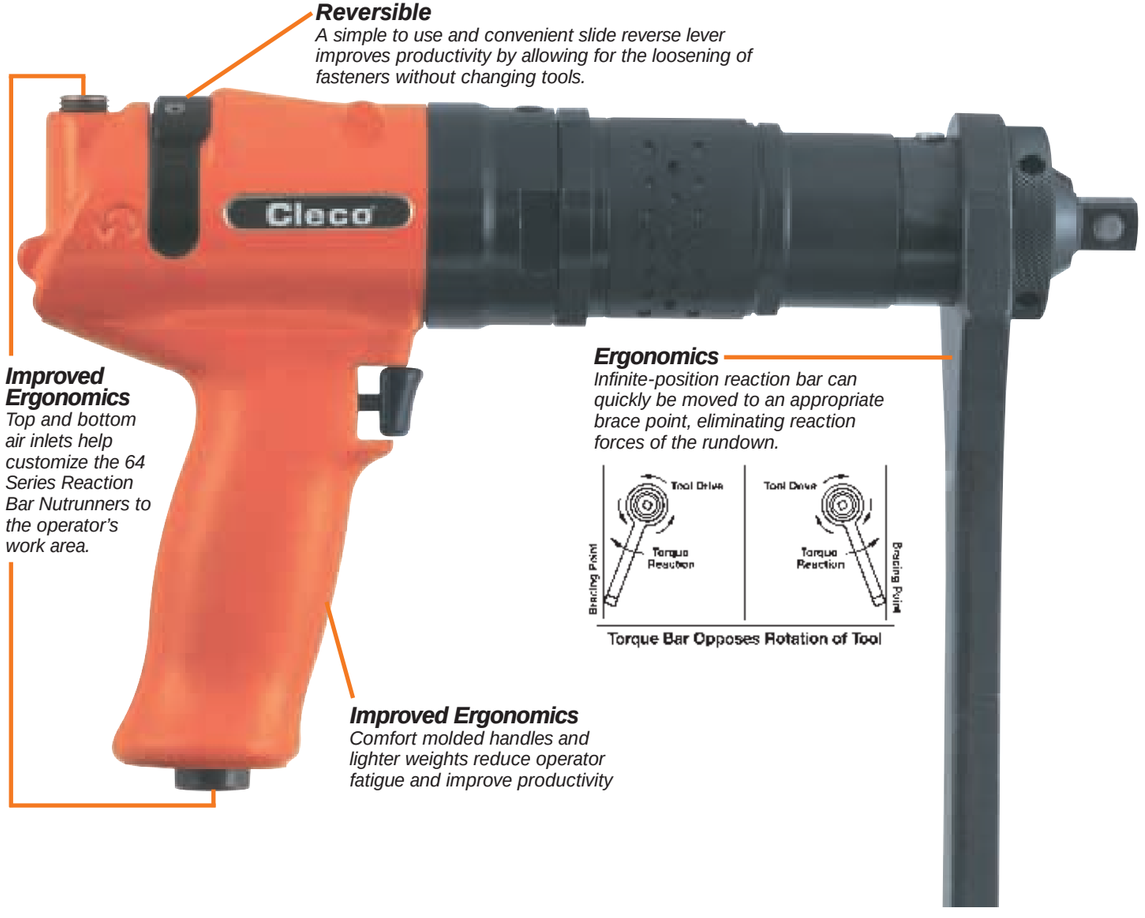
Benefits of a Swingbar Tool

A swingbar tool includes a reaction bar that freely swings 360˚. This allows the reaction bar to be moved to an appropriate bracing point without any disassembly or repositioning of a spline. Once positioned, the reaction bar absorbs the reaction forces of the tool.

Both prevailing torque and type of joint can limit the accuracy of a clutch or pulse tool. On softer joints, torque threshold is reached early in the fastening cycle resulting in long rundowns, especially difficult on pulse tools.

On a long rundown, a swingbar tool that is able to maintain a steady speed minimizes the time required to run down a fastener.

On a typical hard joint with prevailing torque, a torque spike will occur which can prematurely shut off a clutch or pulse tool. In tools with speed shifts, a torque spike will also cause the speed to shift down resulting in a slower rundown. The Cleco 64 Series Swingbar Nutrunners are not affected by torque spikes.



Reversible
A simple to use and convenient slide reverse lever improves productivity by allowing for the loosening of fasteners without changing tools.

Improved Ergonomics
Top and bottom air inlets help customize the 64 Series Reaction Bar Nutrunners to the operator's work area.

Ergonomics
Infinite-position reaction bar can quickly be moved to an appropriate brace point, eliminating reaction forces of the rundown.

Torque Bar Opposes Rotation of Tool

Improved Ergonomics
Comfort molded handles and lighter weights reduce operator fatigue and improve productivity

Speed and Torque Tests for the New Cleco 64 Series Swingbar Nutrunners

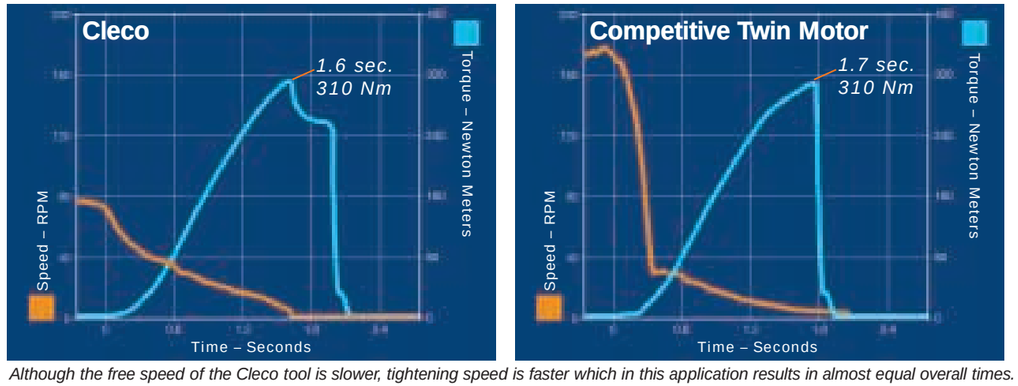
The goal of any fastening application is to maintain a high degree of accuracy while minimizing the length of time required to perform the rundown. The new Cleco 64 Series Swingbar Nutrunners utilize a single powerful motor that limits speed shifts and offers a fast and accurate rundown regardless of joint type.

Competitive units with high RPM's quickly drop their speed at threshold resulting in an overall longer rundown period. This gap is multiplied when prevailing torque is present.

To read the graphs below, the orange line represents the tool speed while the blue line represents the torque generated throughout a rundown. Notice the correlation between speed and torque and its overall effect on rundown time.

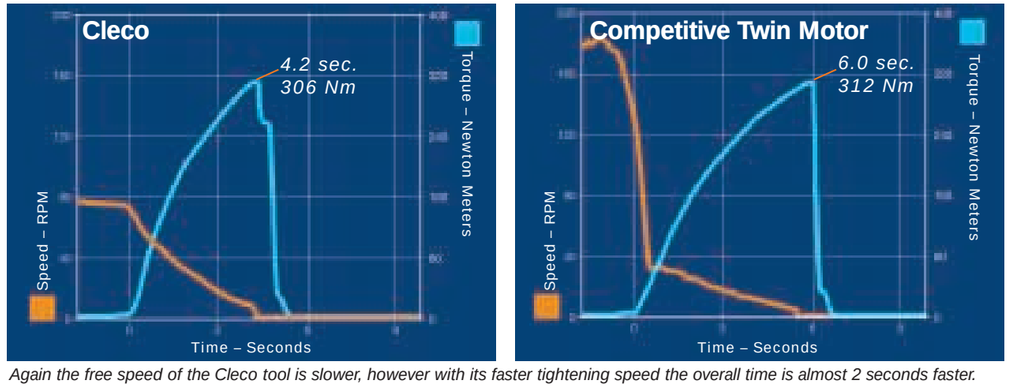
The swingbar can instantly be positioned to absorb the torque reaction of the tool while maintaining a comfortable position with the trigger hand.

Random Comparison on 120˚ Joint



Although the free speed of the Cleco tool is slower, tightening speed is faster which in this application results in almost equal overall times.

Random Comparison on 720˚ Joint



Again the free speed of the Cleco tool is slower, however with its faster tightening speed the overall time is almost 2 seconds faster.

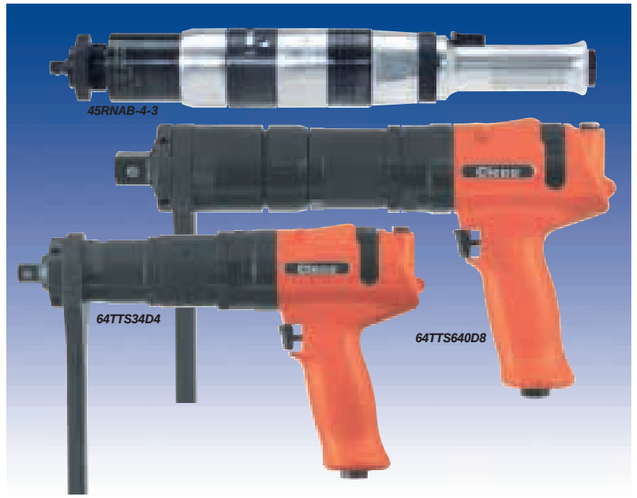
Cleco®

45, 55 & 64 Series

Torque Range:
14 – 3850 Nm
10 – 2837 Ft. Lbs.

Bolt Size:
M6 – M42
5/16 – 1 3/4”

- Inline & Pistol Grip
- Reversible
- Lever, button and trigger start
- Swingbar (64 series)



Model Number	Drive Size	Suitable for Bolt Size		Free Speed	Torque Range		Length		Weight*	
		in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg
Inline – Clecomatic – Lever Start – Twist Ring Reverse										
55RNAL-4-4	1/2	7/16	M8	560	34-20	46-27	16.1	410	6.5	3.0
55RNAL-3-4	1/2	1/2	M10	370	51-25	69-34	16.1	410	6.5	3.0
55RNAL-2-4	1/2	1/2	M12	270	67-30	91-46	16.1	410	6.5	3.0
Inline – Clecomatic – Button Start – Twist Ring Reverse										
45RNAB-6-3	3/8	5/16	M6	740	16-10	22-14	14.5	368	5.4	2.4
45RNAB-4-3	3/8	3/8	M8	560	22-14	30-19	14.5	368	5.4	2.4
45RNAB-3-3	3/8	7/16	M8	370	33-18	45-24	14.5	368	5.4	2.4
45RNAB-2-4	1/2	7/16	M10	270	46-23	62-31	14.5	368	5.4	2.4
Pistol - Stall Torque – Reversible – Swingbar										
64TTS34D4	1/2	3/8	M8	725	25	34	11.5	290.8	6.1	2.8
64TTS44D4	1/2	7/16	M8	570	32	44	11.5	290.8	6.1	2.8
64TTS55D4	1/2	7/16	M10	445	41	55	11.5	290.8	6.1	2.8
64TTS75D4	1/2	1/2	M12	340	55	75	11.5	290.8	6.1	2.8
64TTS90D4	1/2	1/2	M12	270	66	90	11.5	290.8	6.1	2.8
64TTS110D4	1/2	9/16	M12	225	81	110	11.5	290.8	6.1	2.8
64TTS125D4	1/2	9/16	M12	200	92	125	11.5	290.8	6.1	2.8
64TTS140D4	1/2	5/8	M14	180	103	140	11.5	290.8	6.1	2.8
64TTS150D6	3/4	5/8	M14	160	111	150	12.5	316.2	8.0	3.6
64TTS175D6	3/4	5/8	M14	135	129	175	12.5	316.2	8.0	3.6
64TTS205D6	3/4	5/8	M16	115	151	205	12.5	316.2	8.0	3.6
64TTS255D6	3/4	3/4	M16	95	188	255	12.5	316.2	8.0	3.6
64TTS345D6	3/4	3/4	M20	70	254	345	12.5	316.2	8.0	3.6
64TTS425D6	3/4	7/8	M20	55	313	425	12.5	316.2	8.0	3.6
64TTS570D6	3/4	1	M22	42	420	570	12.9	328.9	8.4	3.8
64TTS640D8	1	1 1/8	M22	32	472	640	15.9	404.1	14.3	6.5
64TTS750D8	1	1 1/8	M24	27	553	750	15.9	404.1	14.3	6.5
64TTS930D8	1	1 1/4	M27	22	686	930	15.9	404.1	14.3	6.5
64TTS1260D8	1	1 3/8	M27	16	929	1260	15.91	404.1	14.3	6.5
64TTS1475D8	1	1 1/2	M30	14	1088	1475	15.9	404.1	14.3	6.5
64TTS1820D8	1	1 3/4	M33	11	1342	1820	15.9	404.1	14.3	6.5
64TTS1985D8	1	1 3/4	M33	10	1464	1985	15.9	404.1	14.3	6.5
64TTS3850D12	1 1/2	1 3/4	M42	5	2837	3850	21.5	546.1	32.0	14.5

GENERAL:
Air Inlet: 3/8” NPT (45 button); 1/2” NPT (55 lever); 1/4” (64 series)
Minimum Hose Size: 3/8” (45 button); 1/2” (55, 64 series)
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Aluminum Torque Reaction Bar
Steel Torque Reaction Bar (64 series tools rated above 50 ft. lbs.)
Slave Square Drive (64TTS3850D12)

OPTIONAL EQUIPMENT:
Steel Torque Reaction Bar:
45, 55 series: 869770
64.....D4 series: 48047128
Additional accessories: Page 57
* Weight without reaction bar.

Cleco®

64 Series

Torque Range:
26 – 3850 Nm
19 – 2837 Ft. Lbs.

Bolt Size:
M8 – M42
3/8 – 1 3/4”

- Pistol Grip
- Reversible
- Swingbar
- Selectork adjustment

Model Number	Drive Size	Suitable for Bolt Size		Free Speed	Torque Range		Length		Weight*	
		in.	mm	RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg
Pistol – Selectork – Trigger Start – Reversible										
64TTK34D4	1/2"	3/8	M8	725	19-25	26-34	11.5	290.8	6.3	2.9
64TTK44D4	1/2"	7/16	M8	570	24-32	33-44	11.5	290.8	6.3	2.9
64TTK55D4	1/2"	7/16	M10	445	30-41	41-55	11.5	290.8	6.3	2.9
64TTK75D4	1/2"	1/2	M12	340	41-55	56-75	11.5	290.8	6.3	2.9
64TTK90D4	1/2"	1/2	M12	270	50-66	68-90	11.5	290.8	6.3	2.9
64TTK110D4	1/2"	9/16	M12	225	61-81	83-110	11.5	290.8	6.3	2.9
64TTK125D4	1/2"	9/16	M12	200	69-92	94-125	11.5	290.8	6.3	2.9
64TTK140D4	1/2"	5/8	M14	180	77-103	105-140	11.5	290.8	6.3	2.9
64TTK150D6	3/4"	5/8	M14	160	83-111	113-150	12.5	316.2	8.2	3.7
64TTK175D6	3/4"	5/8	M14	135	97-129	131-175	12.5	316.2	8.2	3.7
64TTK205D6	3/4"	5/8	M16	115	113-151	154-205	12.5	316.2	8.2	3.7
64TTK255D6	3/4"	3/4	M16	95	141-188	191-255	12.5	316.2	8.2	3.7
64TTK345D6	3/4"	3/4	M20	70	191-254	259-345	12.5	316.2	8.2	3.7
64TTK425D6	3/4"	7/8	M20	55	235-313	319-425	12.5	316.2	8.2	3.7
64TTK570D6	3/4"	1	M22	42	315-420	428-570	13.0	328.9	8.6	3.9
64TTK640D8	1"	1 1/8	M22	32	354-472	480-640	15.9	404.1	14.5	6.6
64TTK750D8	1"	1 1/8	M24	27	415-553	563-750	15.9	404.1	14.5	6.6
64TTK930D8	1"	1 1/4	M27	22	514-686	698-930	15.9	404.1	14.5	6.6
64TTK1260D8	1"	1 3/8	M27	16	697-929	945-1260	15.9	404.1	14.5	6.6
64TTK1475D8	1"	1 1/2	M30	14	816-1088	1106-1475	15.9	404.1	14.5	6.6
64TTK1820D8	1"	1 3/4	M33	11	1007-1342	1365-1820	15.9	404.1	14.5	6.6
64TTK1985D8	1"	1 3/4	M33	10	1098-1464	1489-1985	15.9	404.1	14.5	6.6
64TTK3850D12	1 1/2"	1 3/4	M42	5	2128-2837	2888-3850	21.5	546.1	32.2	14.6

GENERAL:
Air Inlet: 3/8” NPT
Minimum Hose Size: 1/2”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Aluminum Torque Reaction Bar (tools rated below 50 ft. lbs.)
Steel Torque Reaction Bar (tools rated above 50 ft. lbs.)
Slave Square Drive (64TTK3850D12)

OPTIONAL EQUIPMENT:
Steel Torque Reaction Bar: 64.....D4 series: 48047128
Additional accessories: Page 57
* Weight without reaction bar.

Flush Socket Nutrunners

Clecomatic Clutch & Stall

Cleco®

34 Series

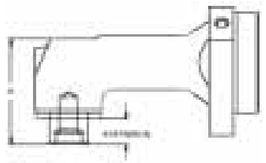
Torque Range

5 - 103 Nm 4 - 76 Ft. Lbs.

- **External torque adjustment (Clecomatic models)**
- **Indexable anglehead**
- **One torque spring to meet specified range**
- **Oilless blades**
- **Reversible**

X Dimension For Flush Socket

Head	Inches	Milimeters	Socket Size Range
F1	1.54	39	8–15mm
F2	1.69	43	10–15mm
F3	2.32	59	13–21mm



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number	Socket Size	Free Speed	Torque		Length		Weight		Anglehead Height		Anglehead Side to Center	
		RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
Clecomatic - Lever Start - Reversible												
34RAA09F1MD00	10 mm	1825	4-7	5-9	17.0	432	3.7	1.7	1.54	39	0.55	14
34RAA16F1MD00	10 mm	1055	7-12	9-16	17.0	432	3.7	1.7	1.54	39	0.55	14
34RAA28F1MG00	13 mm	645	10-20*	14-28*	17.8	452	3.9	1.8	1.54	39	0.55	14
34RAA33F2MG00	13 mm	540	12-24	17-33	18.8	478	4.7	2.1	1.69	43	0.67	17
34RAA47F2MG00	13 mm	380	17-35	24-47	19.0	483	5.1	2.3	1.69	43	0.67	17
34RAA53F2MI00	15 mm	265	17-39	24-53	19.0	483	5.1	2.3	1.69	43	0.67	17
34RAA67F3MI00	15 mm	265	24-49	33-67	20.5	521	5.8	2.6	2.32	59	0.87	22
34RAA94F3ML00	18 mm	185	35-69	47-94	20.5	521	5.8	2.6	2.32	59	0.87	22
Stall - Lever Start - Reversible												
34RAS10F1MD00	10 mm	1825	7	10	17.0	432	3.4	1.5	1.54	39	0.55	14
34RAS18F1MD00	10 mm	1055	13	18	17.0	432	3.4	1.5	1.54	39	0.55	14
34RAS30F1MG00	13 mm	645	22*	30*	17.8	452	3.5	1.6	1.54	39	0.55	14
34RAS40F2MG00	13 mm	480	29	40	19.0	483	4.4	2.0	1.69	43	0.67	17
34RAS52F2MI00	15 mm	380	38	52	19.0	483	4.4	2.0	1.69	43	0.67	17
34RAS58F3MI00	15 mm	335	43	58	20.5	521	5.5	2.5	2.32	59	0.87	22
34RAS73F3MI00	15 mm	265	54	73	20.5	521	5.5	2.5	2.32	59	0.87	22
34RAS103F3ML00	18 mm	185	76	103	20.5	521	5.5	2.5	2.32	59	0.87	22

* Maximum torque of tool exceeds the maximum torque rating for the head, high maintenance should be expected when operated at the upper torque capacity range.

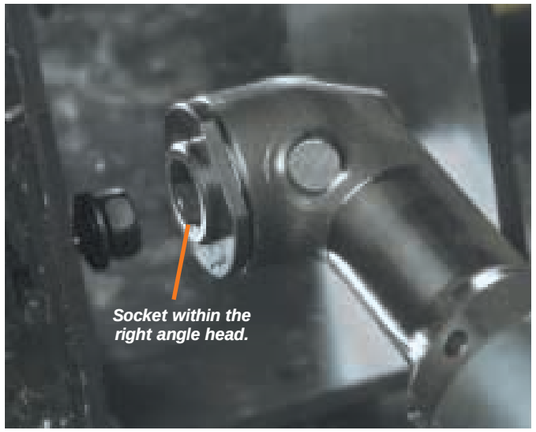
GENERAL:
Air Inlet: 3/8" NPT
Minimum Hose Size: 5/16"
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)
Mounting plate (F3 tools)

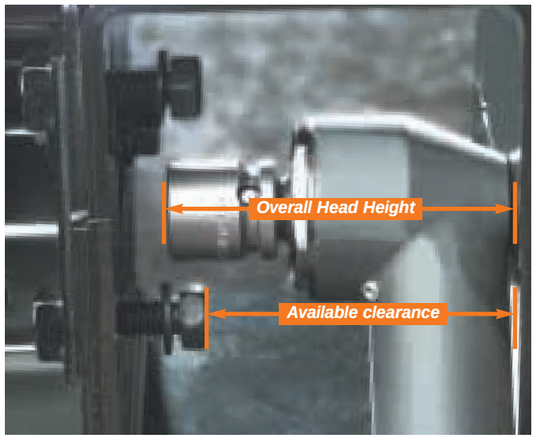
OPTIONAL EQUIPMENT:
Assembly wrench: 201898

Torque signal kit: 201900
Non-reversible kit: 204999
Mounting plates: F1 tools 57217101, 57218103
F2 tools 43287131

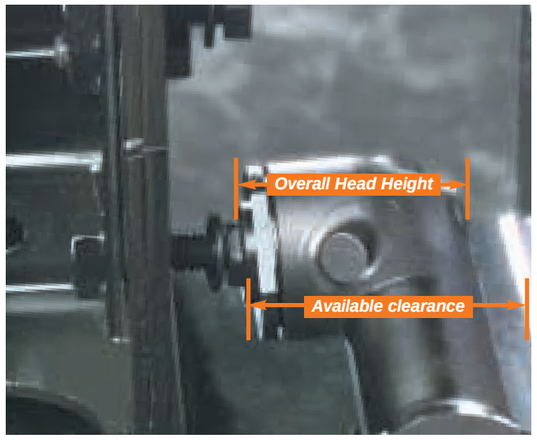
Additional accessories: Page 57



Tight clearance applications, once only accessible by the use of hand tools or crowfoot attachments, can now be tightened by the new family of Cleco Flush Socket Pneumatic Tools at a speed that maximizes productivity. Tools equipped with a Clecomatic clutch assure good torque repeatability.



Standard right angle head with square drive and separate socket will not fit on tight clearance applications. The overall head height is greater than the available clearance.



Flush socket tools have plenty of clearance to fit on the same application. Clecomatic flush socket tools tighten with much higher accuracy than tools with crowfoot attachment. The overall head height is less than the available clearance.

Model Number Example

34	R	A	A	28	F1	EE	0	0

Motor
34

Rotation
R – Reversible

Tool Style
A – Right Angle

Control
A – Clecomatic
S – Stall

Maximum Torque
F1 Clecomatic: 9, 16, or 28
F2 Clecomatic: 33, 47, or 53
F3 Clecomatic: 67 or 94
F1 Stall: 10, 18, or 30
F2 Stall: 40 or 52
F3 Stall: 58, 73 or 103

Tool Termination
F1 Flush socket with F1 head
F2 Flush socket with F2 head
F3 Flush socket with F3 head with mounting plate

Drive Socket
EA – 1/4
EB – 5/16
EE – 1/2
EF – 9/16
EG – 5/8
EH – 11/16
EI – 3/4
MB – 8mm
MD – 10mm
ME – 11mm
MF – 12mm
MG – 13mm
MH – 14mm
MI – 15mm
MJ – 16mm
MK – 17mm
ML – 18mm
MM – 19mm
MO – 21mm

Extension Length
0 – Flush
1 – 1/8"
4 – 1/2"
2 – 1/4"
6 – 3/4"
8 – 1"

Output Type
0–Standard **1**–Fast Lead **2**–Magnetic

Clecomatic Clutch & Stall

Cleco®

34 Series

Torque Range

14 - 30 Nm 10 - 22 Ft. Lbs.

- **External torque adjustment (Clecomatic models)**
- **Indexable anglehead**
- **One torque spring to meet specified range**
- **Oilless blades**
- **Reversible**

NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number		Free Speed	Torque Range		Socket Size		Length		Weight	
15 Degree Head	30 Degree Head	RPM	ft.-lbs.	Nm	in.	mm	in.	mm	lbs.	kg
Clecomatic - Lever Start - Reversible										
34RCA30D1	34RCA30D3	425	11-22	15-30	5/16	8	20.0	507	4.7	2.2
Stall - Lever Start - Reversible										
34RCS29D1	34RCS29D3	490	21	29	5/16	8	19.6	497	4.5	2.1

GENERAL:
Air Inlet: 3/8" NPT
Minimum Hose Size: 5/16"
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)

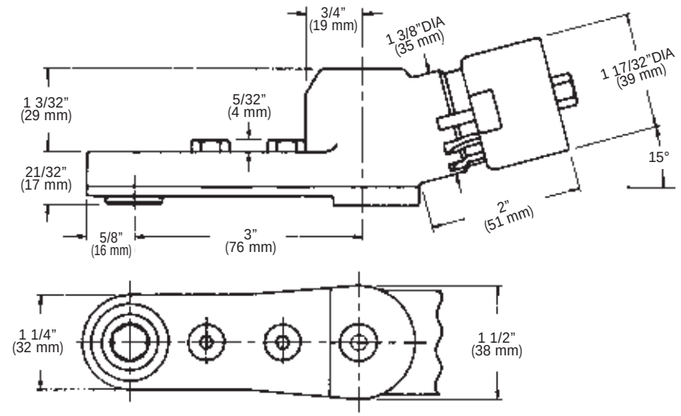
EXRA EQUIPMENT:
Specify socket from page 47.

OPTIONAL EQUIPMENT:
Assembly wrench: 201898
Torque signal kit: 201900
Non-reversible kit: 204999

Additional accessories: Page 57

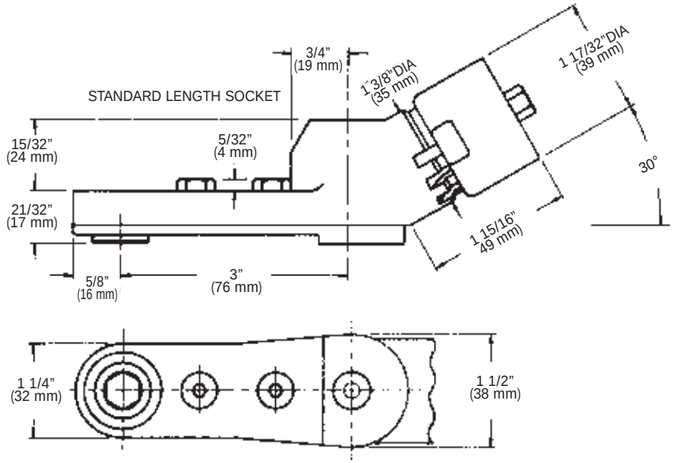
15° HEAD

Part Number: 301071
Maximum Recommended Torque: 22 ft. lb. (30 Nm)



30° HEAD

Part Number: 301072
Maximum Recommended Torque: 22 ft. lb. (30 Nm)



Crowfoot Sockets

Socket Number	Socket Size	Extension
CSEA01	EA-1/4"	Flush
CSEC01	EC-3/8"	Flush
CSED01	ED-7/16"	Flush
CSEE01	EE-1/2"	Flush
CSEF01	EF-9/16"	Flush
CSMB01	MB-8mm/5/16"	Flush
CSMD01	MD-10mm	Flush
CSME01	ME-11mm	Flush
CSMF01	MF-12mm	Flush
CSMG01	MG-13mm	Flush
CSMH01	MH-14mm	Flush
CSMI01	MI-15mm	Flush

Socket Number	Socket Size	Extension
CSEC41	EC-3/8"	1/2"
CSED41	ED-7/16"	1/2"
CSMB41	MB-8mm/5/16"	1/2"
CSMD41	MD-10mm	1/2"
CSMF41	MF-12mm	1/2"
CSMG41	MG-13mm	1/2"
CSEE61	EE-1/2"	3/4"
CSMG61	MG-13mm	3/4"
CSMH61	MH-14mm	3/4"

Hold & Drive Nutrunners

Clecomatic Clutch & Stall

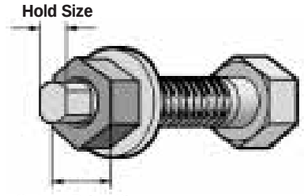
Cleco®

34 Series

Torque Range

24 - 103 Nm 17 - 76 Ft. Lbs.

- **External torque adjustment (Clecomatic models)**
- **Indexable anglehead**
- **One torque spring to meet specified range**
- **Oilless blades**
- **Reversible**



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

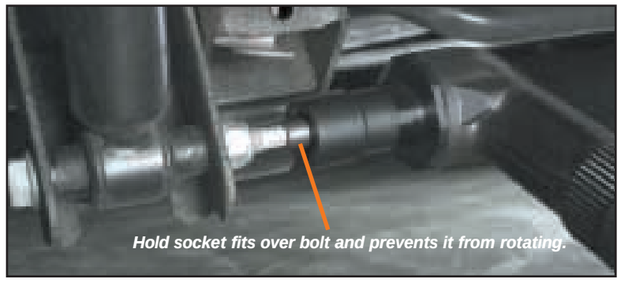
Model Number	Output Drive Size	Hold Size	Free Speed	Torque		Length		Weight		Anglehead Height		Anglehead Side to Center	
			RPM	ft.-lbs.	Nm	in.	mm	lbs.	kg	in.	mm	in.	mm
Clecomatic - Lever Start - Reversible													
34RAA53H3MGFM5	13mm	5mm Female Hex	335	17-39	24-53	20.7	526	8.0	3.5	2.4	61	1.06	27
34RAA67H3MIFMA	15mm	7mm Female Hex	265	24-49	33-67	20.7	526	8.0	3.5	2.4	61	1.06	27
34RAA94H3MLFMB	18mm	8mm Female Hex	185	35-69	47-94	20.7	526	8.0	3.5	2.4	61	1.06	27
Stall - Lever Start - Reversible													
34RAS58H3MGFM5	13mm	5mm Female Hex	335	43	58	20.7	526	7.7	3.5	2.4	61	1.06	27
34RAS73H3MJT30	16mm	T30 Torx	265	54	73	20.7	526	7.7	3.5	2.4	61	1.06	27
34RAS103H3MOFMD	21mm	10mm Female Hex	185	76	103	20.7	526	7.7	3.5	2.4	61	1.06	27

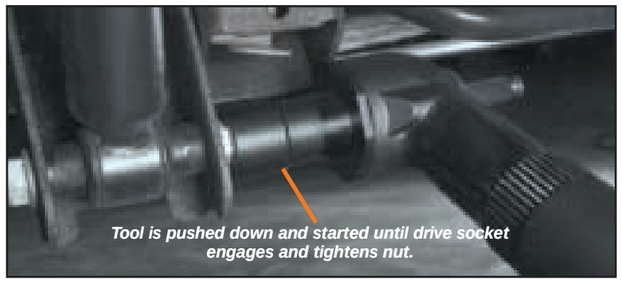
GENERAL:
Air Inlet: 3/8" NPT
Minimum Hose Size: 5/16"
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)
Mounting Plate

OPTIONAL EQUIPMENT:
Assembly wrench: 201898
Torque signal kit: 201900
Non-reversible kit: 204999

Additional accessories: Page 57





Sometimes called shock absorber tools, "Hold-n-Drive" bolts are used with these tools in automotive and truck frame applications. They reduce assembly handling to one person working from one side of the workpiece. The bolt is held stationary by the tool while the nut is tightened from the same side. This also eliminates reaction bars since the bolt absorbs the torque.

Model Number Example

Drive Sockets		Hold Sockets		
34	R	A	A	53	H	X	XX	X	XX	X

Motor
34

Rotation
R – Reversible

Tool Style
A – Right Angle

Control
A – Clecomatic
S – Stall

Max Output Torque
Torque ratings are:
Clecomatic: 53, 67, 94
Stall: 58, 73, 103

Tool Termination
H Hold-n-Drive

Retainer Shaft
3 3 1/2" **5** 5 3/8"
4 4" **6** 5 7/8"

Drive Socket

EE – 1/2"	**EM** – 1"	**MJ** – 16mm	**MR** – 24mm
EF – 9/16"	**EN** – 1 1/16"	**MK** – 17mm	**MS** – 25mm
EG – 5/8"	**EO** – 1 1/8"	**ML** – 18mm	**MT** – 26mm
EH – 11/16"	**EP** – 1 3/16"	**MM** – 19mm	**MU** – 27mm
EI – 3/4"	**EQ** – 1 1/4"	**MN** – 20mm	**XX** – Special
EJ – 13/16"	**MG** – 13mm	**MO** – 21mm	
EK – 7/8"	**MH** – 14mm	**MP** – 22mm	
EL – 15/16"	**MI** – 15mm	**MQ** – 23mm	

Socket Style
F – Female Hex
M – Male Hex
T – Torx
O – Female oval

Second Oval Dimension
Utilize the unit of measure from longer oval dimension to identify shorter dimension

Hold Socket

EA – 1/4"	**ME** – 11mm
EB – 5/16"	**MF** – 12mm
EC – 3/8"	**MG** – 13mm
ED – 7/16"	**MH** – 14mm
EE – 1/2"	**15** – T15
EF – 9/16"	**20** – T20
EG – 5/8"	**25** – T25
M5 – 5mm	**30** – T30
M6 – 6mm	**40** – T40
MA – 7mm	**45** – T45
MB – 8mm	
MC – 9mm	
MD – 10mm	

Clecomatic Clutch & Stall

Cleco®

34 Series

Torque Range
5 - 103 Nm 4 - 76 Ft. Lbs.

Bolt Size
M5 - M36 #10 - 1 1/2”

- **External torque adjustment (Clecomatic models)**
- **Indexable anglehead**
- **One torque spring to meet specified range**
- **Oilless blades**
- **Reversible**

Model Number	Square Drive	Free Speed RPM	Torque ft.-lbs.	Torque Nm	Length in.	Length mm	Weight lbs.	Weight kg	Anglehead Height in.	Anglehead Height mm	Anglehead Side to Center in.	Anglehead Side to Center mm
Clecomatic - Lever Start - Reversible												
34RAA09D24	1/2”	1825	4-7	5-9	17.8	452	4.5	2.0	1.69	43	0.67	17
34RAA16D24	1/2”	1055	7-12	9-16	17.8	452	4.5	2.0	1.69	43	0.67	17
34RAA28D24	1/2”	645	10-20	14-28	18.8	478	4.7	2.1	1.69	43	0.67	17
34RAA33D24	1/2”	540	12-24	17-33	18.8	478	4.7	2.1	1.69	43	0.67	17
34RAA47D24	1/2”	380	17-35	24-47	19.0	483	5.1	2.3	1.69	43	0.67	17
34RAA53D24	1/2”	265	17-39	24-53	19.0	483	5.1	2.3	1.69	43	0.67	17
34RAA67D34	1/2”	265	24-49	33-67	20.5	521	5.8	2.6	2.32	59	0.87	22
34RAA94D34	1/2”	185	35-69	47-94	20.5	521	5.8	2.6	2.32	59	0.87	22
Stall - Lever Start - Reversible												
34RAS10D24	1/2”	1825	7	10	17.8	452	4.2	1.9	1.69	43	0.67	17
34RAS18D24	1/2”	1055	13	18	17.8	452	4.2	1.9	1.69	43	0.67	17
34RAS30D24	1/2”	645	22	30	18.8	478	4.4	2.0	1.69	43	0.67	17
34RAS40D24	1/2”	480	29	40	19.0	483	4.4	2.0	1.69	43	0.67	17
34RAS52D24	1/2”	380	38	52	19.0	483	4.4	2.0	1.69	43	0.67	17
34RAS58D34	1/2”	335	43	58	20.5	521	5.5	2.5	2.32	59	0.87	22
34RAS73D34	1/2”	265	54	73	20.5	521	5.5	2.5	2.32	59	0.87	22
34RAS103D34	1/2”	185	76	103	20.5	521	5.5	2.5	2.32	59	0.87	22

GENERAL:
Air Inlet: 3/8” NPT
Minimum Hose Size: 5/16”
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Suspension bail
Exhaust Overhose
Clutch adjustment tool (Clecomatic tools)

OPTIONAL EQUIPMENT:
Assembly wrench: 201898
Torque signal kit: 201900
Non-reversible kit: 204999
Mounting plates: D2 tools 43287131
D3 tools 49098103

Additional accessories: Page 57

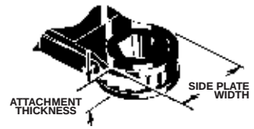
GARDNER-DENVER®

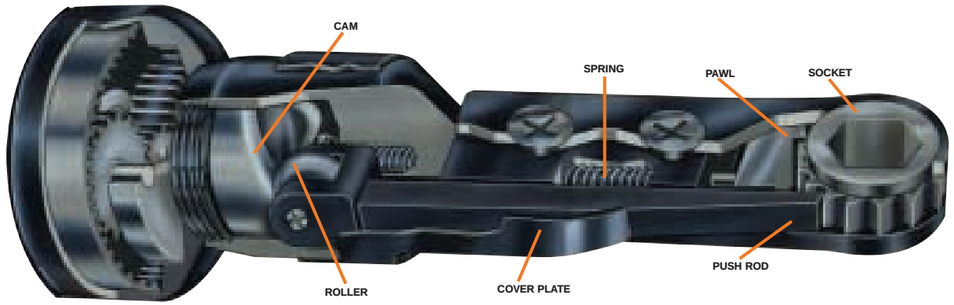
The Close Clearance Tool

Modern design practices cause many threaded fasteners to be located in such a way as to be practically inaccessible to power tools. The only modern production tool for accurate torquing of these “hidden fasteners” is the versatile ratchet wrench with its flat, narrow attachment and wide variety of sockets.

High performance, lightweight air motors are used in Gardner-Denver Ratchet Wrenches. Stall-type and clutch actuated air shut-off features provide a motor selection that can be matched to meet job requirements. Reverse rotation of the fastener is accomplished by simply turning the tool over.

To accommodate various size diameter sockets, several side plate widths are offered for each motor size, thus providing a wide range of available torques.





Sockets

Gardner-Denver ratchet wrenches can be supplied with sockets for almost every fastening application. Hex and double hex plus open end are available in inch and millimeter sizes. Special sockets such as square, double square, extended, partial broached (allowing socket to ride with fastener) and grooved socket (to adapt commercial ball-type socket drivers) are available on request at extra cost. Power socket adapters are available for adapting grooved socket to standard square drive for use with conventional square drive sockets.

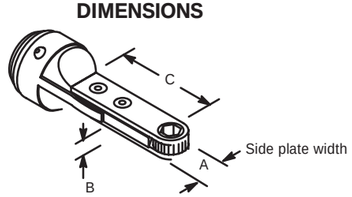
GARDNER-DENVER®

H16, H30, 41 Series

Torque Range:
up to 95Nm
up to 70 Ft. Lbs

- Stall type
- Non-Reversible

DIMENSIONS



Model Number	Free Speed	Maximum Torque		Maximum Socket Size		"A"		"B"		"C"		Weight		Length	
	RPM	Ft. Lbs.	Nm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	in.	mm
H16NR25H15	375	8.7	11.8	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	3.3	1.5	11.5	291
H16NR13H15	190	11.6	15.7	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	3.6	1.6	12.7	323
H30NR20H15	300	23.0	31.2	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	3.6	1.6	13.5	343
H30NR12H15	175	25.8	34.9	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	4.0	1.8	14.4	366
H16NR25H16	350	9.8	13.3	5/8	16	1	25.4	9/16	14.2	3.13	79.5	3.3	1.5	11.5	291
H16NR13H16	175	13.7	18.6	5/8	16	1	25.4	9/16	14.2	3.13	79.5	3.6	1.6	12.7	323
H30NR20H16	275	24.8	33.6	5/8	16	1	25.4	9/16	14.2	3.13	79.5	3.6	1.6	13.5	343
H30NR12H16	160	27.1	36.8	5/8	16	1	25.4	9/16	14.2	3.13	79.5	4.0	1.8	14.4	366
H16NR13H18	160	14.2	10.3	5/8	16	1-18	28.6	9/16	14.2	3.13	79.5	3.7	1.7	12.7	323
H30NR20H18	260	24.8	33.6	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	3.6	1.6	13.5	343
H30NR12H18	150	30.8	41.7	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	4.0	1.8	14.4	366
41NCR130H18	170	52.0	70.0	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	5.8	2.6	18.1	460
H16NR25H20	305	11.0	14.9	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	3.3	1.5	11.5	291
H16NR13H20	150	14.9	20.2	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	3.7	1.7	12.7	323
H30NR20H20	240	28.9	39.2	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	3.6	1.6	13.6	344
H30NR12H20	140	34.8	47.2	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	4.0	1.8	14.4	366
41NCR130H20	160	56.0	76.0	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	5.8	2.6	18.1	460
H16NR25H25	220	14.9	20.2	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	3.4	1.5	11.6	294
H16NR13H25	110	22.1	29.9	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	3.8	1.7	12.9	326
H30NR20H25	175	32.1	43.5	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	3.7	1.7	13.6	346
H30NR12H25	105	38.5	52.3	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	4.1	1.8	14.0	370
41NCR130H25	115	70.0	95.0	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	5.9	2.6	18.2	463
H30NR20H29	160	33.4	45.3	1-1/8	29	1-13/16	46.0	5/8	16.0	3.50	88.9	4.0	1.8	13.9	354
H30NR12H29	95	40.9	55.4	1-1/8	29	1-13/16	46.0	5/8	16.0	3.50	88.9	4.4	2.0	14.9	377

GENERAL:
Air Inlet: 1/4" NPT (H16, H30 series),
3/8" NPT (41 series)
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
H16, H30: Suspension bail, hex socket
41 Series: Hex socket

SOCKET SELECTION:
See pages 54-56

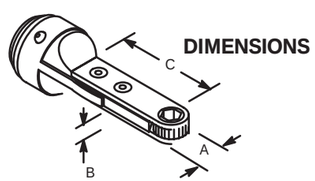
GARDNER-DENVER®

H16, H30, 41, 60 Series

Torque Range:
up to 415 Nm
up to 306 Ft. Lbs

- Clutch Actuated Air Shut-Off *(H16, H30 & 60 series)*
  Air Shut-Off *(41 series)*
- Non-Reversible

DIMENSIONS



Model Number	Free Speed	Maximum Torque		Maximum Socket Size		"A"		"B"		"C"		Weight		Length	
	RPM	Ft. Lbs.	Nm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	in.	mm
H16NDR09H15	130	10.0	13.5	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	4.3	2.0	18.9	480
H30NDR08H15	120	12.0	16.2	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	4.9	2.2	20.6	523
41NDR236H15	360	23.0	31.1	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449
41NDR172H15	265	32.0	43.3	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449
41NDR130H15	200	42.0	56.9	1/2	13	15/16	23.8	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478
H30NDR08H16	110	13.0	17.6	5/8	16	1	25.4	9/16	14.2	3.13	79.5	4.9	2.2	20.6	523
41NDR236H16	335	25.0	33.8	5/8	16	1	25.4	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449
41NDR172H16	245	34.0	46.0	5/8	16	1	25.4	9/16	14.2	3.13	79.5	5.7	2.6	17.7	449
41NDR130H16	185	45.0	60.9	5/8	16	1	25.4	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478
H30NDR08H18	105	18.0	24.3	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	4.9	2.2	20.7	526
41NDR236H18	315	29.0	39.2	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	5.8	2.6	17.7	449
41NDR130H18	170	52.0*	70.4	5/8	16	1-1/8	28.6	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478
H16NDR09H20	110	16.0	21.6	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	4.4	2.0	19.1	485
H30NDR08H20	100	19.0	25.7	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	4.9	2.2	20.8	528
41NDR172H20	215	42.0	56.9	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	5.8	2.6	17.7	449
41NDR130H20	160	56.0*	75.8	3/4	19	1-1/4	31.8	9/16	14.2	3.13	79.5	6.1	2.8	18.8	478
60NDR092HD24	95	122.0	165.3	3/4	19	1-1/2	38.1	7/8	22.4	6.19	157.2	16.9	7.7	27.4	697
H30NDR08H25	70	22.0	29.8	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	5.0	2.3	21.0	533
41NDR172H25	155	53.0*	71.8	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	5.8	2.6	17.8	452
41NDR130H25	115	70.0*	94.8	15/16	24	1-9/16	39.7	9/16	14.2	3.25	82.5	6.1	2.8	18.9	481
60NDR092HD40	60	212.0	287.2	1-1/2	38	2-1/2	63.5	7/8	22.4	6.69	169.9	17.2	7.8	28.4	722
60NDR092HD48	50	252.0	341.4	1-15/16	49	3	76.2	1	25.4	6.94	176.3	17.7	8.0	28.9	735
60NDR092HD56	40	306.0	415.0	2-3/8	60	3-1/2	88.9	1	25.4	7.25	184.2	18.0	8.2	29.5	749

GENERAL:
Air Inlet: 1/4" NPT (H16, H30),
3/8" NPT (41), 1/2" NPT (60)
Tool performance rated at 90 psi (620kPa) air pressure.

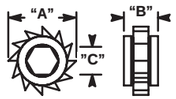
STANDARD EQUIPMENT:
H16, H30: Suspension bail, hex socket
41: Hex socket
60: Hex socket, reaction bar collar
(1/2" hex opening for reaction bar)

SOCKET SELECTION:
See pages 54-56

*WARNING: these terminations are not recommended for applications over 50 Ft. Lbs. (68 Nm) torque.

Hex Socket Selection charts

Standard Length
H16, H30, 41 Series *(no additional cost)*

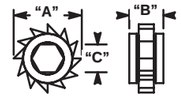


Termination		12	13	15	16	18	20	25	29	37
"A"		3/4	13/16	15/16	1	1-1/8	1-1/4	1-9/16	1-13/16	2-11/32
"B"		1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8	5/8
"C"	Hex*	Socket Part Numbers								
1/4"	S.H.	28000	28020	28048	28075					
1/4"	D.H.	28001	28021	28051						
9/32"	S.H.	28012								
5/16"	S.H.	28002	28022	28040	28056		28101	28135		
5/16"	D.H.	28003	28023	28052	28078		28124			30434
11/32"	S.H.	28004	28024		28074	28097	28102			
11/32"	D.H.	28005								
3/8"	S.H.	28006	28026	28041	28057	28094	28160			
3/8"	D.H.	28007	28027	28042	28058		28123	28166		
7/16"	S.H.	28009†	28029	28043	28060	28081	28105	28136	28192	30418
7/16"	D.H.	28010†	28030	28044	28061	28082	28106	28137		30435
1/2"	S.H.		28031†	28046	28063	28083	28108	28139	28170	30423
1/2"	D.H.		28032†	28047	28064	28084	28109	28140		
9/16"	S.H.				28066	28087	28111	28141	28171	30432
9/16"	D.H.				28067	28088	28112	28142	28189	
5/8"	S.H.				28069†	28090	28115	28144	28172	
5/8"	D.H.				28070†	28091	28116	28145	28190	30431
11/16"	S.H.						28118	28146	28173	30433
11/16"	D.H.						28119	28147		
3/4"	S.H.						28121	28148	28174	30429
3/4"	D.H.						28122	28149	28191	
13/16"	S.H.							28150	28175	
13/16"	D.H.							28151		
7/8"	S.H.							28154		30427
7/8"	D.H.							28155		
15/16"	S.H.							28156	28179	30430
15/16"	D.H.								28180	30434
1"	S.H.								28181	30428
1"	D.H.								28182	
1-1/16"	S.H.								28183	30436
1-1/16"	D.H.								28184	
1-1/8"	S.H.								28185	30417
1-1/8"	D.H.								28187	
1-3/16"	S.H.									30425
1-1/4"	S.H.									30419
1-5/16"	S.H.									30426
1-7/16"	S.H.									30420
1-1/2"	S.H.									30421
1-1/2"	D.H.									30437
1-5/8"	S.H.									30422
6 mm	S.H.	28016	28033	28055						
7 mm	S.H.	28017	28034	530440			28126	28163		
8 mm	S.H.	28002	28022	28040	28056					
8 mm	D.H.	28003	28023		28078					
9 mm	S.H.				28071					
9 mm	D.H.		28037							
10 mm	S.H.	28008	28028	28054	28059	28093	28104	28164		
11 mm	S.H.	28009	28029	28043	28060	28081		28136	530460	
12 mm	S.H.			28045	28062		28107	28138		
13 mm	S.H.		28036	28053	28077	28096	28125	28161	530461	
14 mm	S.H.			530441	28065	28086	28110	28159		
15 mm	S.H.				28068	28089	28113	28143	530462	532431
15 mm	D.H.				28080	28095				
16 mm	S.H.					28099		28167		
17 mm	S.H.					28092	28117	28158	28193	
18 mm	S.H.						28120	28165		30439
19 mm	S.H.						28121	28148	28174	30429
19 mm	D.H.						28122	28149	28191	
21 mm	S.H.							28152		
22 mm	S.H.							28162		
23 mm	S.H.								28178	
24 mm	S.H.							28168		
29 mm	S.H.								28188	

* S.H. = Single Hex; D.H. = Double Hex † FRAGILE: For light duty operations only.

Hex Socket Selection Charts

Standard Length
60 Series *(no additional cost)*



Termination		24	32	40	48	56
"A"		1-1/2	2	2-1/2	3	3-1/2
"B"		7/8	7/8	7/8	1	1
"C"	Hex*	Socket Part Numbers				
1/2"	S.H.	29015	29053			29121
1/2"	D.H.	29016				
9/16"	S.H.	29017				
9/16"	D.H.	29018				
5/8"	S.H.	29019	29035			
5/8"	D.H.	29020	29036			
11/16"	S.H.	29021	29037	507159		
11/16"	D.H.		29038			
3/4"	S.H.	29023	29039	507157	29115	523737
3/4"	D.H.	29024	29040			
13/16"	S.H.		29041	29055		
13/16"	D.H.		29042			
7/8"	S.H.		29043	29057		29150
7/8"	D.H.		29044	29058		
15/16"	S.H.		29045	29059	29111	29122
15/16"	D.H.		29046	29060	29112	
1"	S.H.		29047	29061	29116	29147
1"	D.H.		29048	29062		
1-1/16"	S.H.		29049	29063	29114	29146
1-1/16"	D.H.		29050	29064		
1-1/8"	S.H.		29051†	29065	29090	29148
1-1/8"	D.H.		29052†	29066	29091	
1-3/16"	S.H.			29075	29118	29153
1-1/4"	S.H.			29067	29092	29149
1-1/4'	D.H.			29068	29093	
1-5/16"	S.H.			29069	29094	523736
1-5/16'	D.H.			29070	29095	
1-3/8"	S.H.				29117	29145
1-7/16"	S.H.			29071	29096	29123
1-7/16'	D.H.			29072		
1-1/2"	S.H.			29073	29098	29125
1-1/2"	D.H.			29074		
1-9/16"	S.H.					29152
1-5/8"	S.H.				29100	29127
1-5/8"	D.H.				29101	29128
1-11/16"	S.H.					29129
1-11/16"	D.H.				29103	
1-3/4"	S.H.				29108	
1-13/16"	S.H.				29104	29131
1-13/16"	D.H.					29132
1-7/8"	S.H.				29106	29133
1-15/16"	S.H.				29110†	
2"	S.H.					29135
2-1/16"	S.H.					29137
2-1/16"	D.H.					29138
2-3/16	S.H.					29139
2-1/4"	S.H.					29141
2-3/8"	S.H.					29143†
15 mm	S.H.	29028	507135		507161	
18 mm	S.H.	29027				
21 mm	S.H.	29029	507136			
22 mm	S.H.		507134			
24 mm	S.H.		507132	507160	29119	
26 mm	S.H.		507133	507157		
29 mm	S.H.		507134			
36 mm	S.H.			29079		523738

* S.H. = Single Hex; D.H. = Double Hex † FRAGILE: For light duty operations only.

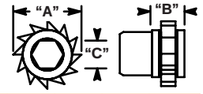
Power Socket Adapters

Adapts grooved sockets to square drive. Use with conventional square drive socket. *(additional cost)*

Part Number	Hex Size	Square Drive	Overall Length
A-312	3/8"	3/8"	0.94"
A-314	7/16"	3/8"	0.94"
A-514	7/16"	1/2"	1.09"
A-516	1/2"	1/2"	1.16"
A-518	9/16"	1/2"	1.16"
A-520	5/8"	1/2"	1.13"
A-524	3/4"	1/2"	1.13"

Extended Length
H16, H30, 41 Series

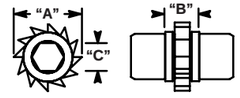
(additional cost)



Termination			12	13	15	16	18	20	25	29
"A"			3/4	13/16	15/16	1	1-1/8	1-1/4	1-9/16	1-13/16
"B"			1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8
"C"	Hex*	Ext.	Socket Part Numbers							
5/16"	S.H.	1/2"				501060				
3/8"	S.H.	1/4"	20966							
3/8"	D.H.	1/4"				28652				
7/16"	S.H.	1/4"				28650				
7/16"	S.H.	1/2"				501056				
1/2"	S.H.	1/4"				28645				
1/2"	S.H.	1/2"				501059				
1/2"	S.H.	5/8"							501061	
1/2"	S.H.	3/4"				501054				
9/16"	S.H.	3/8"				501051				
9/16"	S.H.	1/2"				501053				
9/16"	S.H.	7/8"				28649				
5/8"	S.H.	3/8"				28648†				
1-3/16"	S.H.	3/4"							501062	
13 mm	S.H.	1/2"							501063	

Double Extended
H16, H30, 41 Series

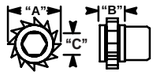
(additional cost)



Termination			12	13	15	16	18	20	25	29
"A"			3/4	13/16	15/16	1	1-1/8	1-1/4	1-9/16	1-13/16
"B"			1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8
"C"	Hex*	Ext.	Socket Part Numbers							
5/16"	S.H.	1/4"	10642							
5/16"	D.H.	1/2"				501222				
3/8"	S.H.	3/8"				501225				
7/16"	S.H.	1/4"		18950						
7/16"	S.H.	1/2"					28787			
1/2"	D.H.	1/8"				28654				
1/2"	S.H.	1/4"				28663	28789			
1/2"	S.H.	7/16"				501221				
1/2"	D.H.	1/2"				28660				
9/16"	S.H.	1/8"				28659				
9/16"	D.H.	1/8'				28655				
9/16"	S.H.	1/4"				28656				
9/16"	D.H.	3/8"				28657				
9/16"	S.H.	1/2"						28791	501230	
9/16"	D.H.	1/2"							501231	
11/16"	S.H.	1/2"						28793		
3/4"	D.H.	3/8"						28797†		
3/4"	S.H.	3/4"							28661	
13 MM	S.H.	1/4"				501229	530024			
13 MM	S.H.	3/8"				501226				
13 MM	S.H.	1/2"				530741	530028			
13 MM	S.H.	3/4"				530742	531201			
15 MM	S.H.	1/4"				501227	530025	530002	501232	
15 MM	S.H.	3/8"				501228		530001	501233	
15 MM	S.H.	1/2"					530026	530003	501234	
15 MM	S.H.	3/4"					531200	530004		

Hex Socket Selection Charts

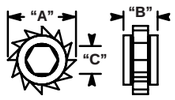
Extended Length H16, H30, 41 Series *(additional cost)*



Termination			12	13	15	16	18	20	25	29
"A"			3/4	13/16	15/16	1	1-1/8	1-1/4	1-9/16	1-13/16
"B"			1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8
"C"	Hex*	Ext.	Socket Part Numbers							
1/4"	S.H.	1/4"	28300							
1/4"	D.H.	3.8"			508406					
1.4"	D.H	1/2"	28314							
5/16"	S.H.	1/4"	28301	28331		28353				
5/16"	D.H.	1/4"	28316			28387				
5/16"	S.H.	3/8"	28302	28333	28338					
5/16"	D.H.	3/8"		28335	28352					
5/16"	S.H.	1/2"	28320		28350	516546				
5/16"	S.H.	3/4"				28392				
5/16"	S.H.	7/8"	28313							
11/32"	S.H.	1/4"	28303							
11/32"	S.H.	1/2"		28336						
11/32"	S.H.	3/4"	29304							
3/8"	D.H.	1/8"			28347	28384				
3/8"	S.H.	1/4"	28305	29323	28339	28354				
3/8"	D.H.	1/4"	28317			28386				
3/8"	S.H.	3/8"	28306	28324		28385		28407		
3/8"	S.H.	1/2"	28307			28355		28441		
3/8"	D.H.	1/2"	28308							
3/8"	S.H.	5/8"	28319							
3/8"	D.H.	5.8"		28325						
3/8"	S.H.	3/4"	28309			28356		28408		
3/8"	D.H.	3/4"				28389				
3/8"	S.H.	7/8"		28326						
3/8"	S.H.	1"			28340					
3/8"	D.H.	1"			28351					
7/16"	S.H.	1/8"			508399					
7/16"	S.H.	1/4"	28310†	28327	28341	28357		28439		
7/16"	D.H.	1/4"		28334	28342	28358				
7/16"	S.H.	3/8"	28311†	28328		28359		28409		
7/16"	S.H.	1/2"	28312	28329	28343	28360	28405	28410		
7/16"	S.H.	5/8"			28344					
7/16"	D.H.	5/8"			508397					
7/16"	S.H.	3/4"				28361		28411		
7/16"	S.H.	7/8"				28362				
7/16"	D.H.	1"			508398					
1/2"	S.H.	1/8"			508400	28363				
1/2"	D.H.	1/8"			508404					
1/2"	S.H.	1/4"			28345	28364	28406	28412		
1/2"	D.H.	1/4"			28348	28365				
1/2"	S.H.	3/8"		28330		28366		28413	28465	28469
1/2"	S.H.	1/2"				28367	28402	28414		28478
1/2"	D.H.	1/2"			28349	28368				
1/2"	S.H.	5/8"				28369	28401		28466	
1/2"	D.H.	5/8"			28346			28437		
1/2"	S.H.	3/4"				28370	28404	28415		
1/2"	S.H.	7/8"						28416		
1/2"	S.H.	1"				28371				
9/16"	S.H.	1/8"				28372				
9/16"	S.H.	1/4"				28373	28395	28418		28471
9/16"	D.H.	1/4"				28374				
9/16"	S.H.	3/8"				28375†	28396			
9/16"	D.H.	3/8"				28376†		28440		
9/16"	S.H.	1/2"				28377†	28403	28419	28463	
9/16"	D.H.	1/2"				28378†		28420	517065	
9/16"	S.H.	5/8"				28379†	28397			
9/16"	S.H.	3/4"				28393†		28421	28468	
9/16"	D.H.	3/4"						28444	28464	
9/16"	S.H.	7/8"				28280†				
9/16"	D.H.	7/8"				516547				
9/16"	S.H.	1"							517061	
5/8"	S.H.	1/8"						28422		
5/8"	S.H.	1/4"				28381†			28452	28479
5/8"	D.H.	1/4"						28423		
5/8"	S.H.	3/8"				28382†				
5/8"	S.H.	1/2"				28388†	28399	28424	28453	
5/8"	S.H.	5/8"							28454	
5/8"	S.H.	3/4"					28400	28426	28455	

Termination			12	13	15	16	18	20	25	29
"A"			3/4	13/16	15/16	1	1-1/8	1-1/4	1-9/16	1-13/16
"B"			1/2	1/2	9/16	9/16	9/16	9/16	9/16	5/8
"C"	Hex*	Ext.	Socket Part Numbers							
5/8"	D.H.	3/4"						28427		
5/8"	D.H.	1"						28428		
11/16"	S.H.	1/4"						28438		
11/16"	D.H.	1/4"						28430		
11/16"	S.H.	3/8"						28431	28456	
11/16"	S.H.	1/2"						28432		514830
11/16"	S.H.	1"							517062	
3/4"	S.H.	1/4"						28433†		
3/4"	S.H.	3/8"							28458	
3/4"	S.H.	1/2"						28434		
3/4"	S.H.	3/4"						28435	28459	28476
3/4"	S.H.	1"						28436	28470	
7/8"	S.H.	1/4"							517063	
7/8"	D.H.	5/8"							28461	
7/8"	S.H.	1"							28462	
15/16"	S.H.	1/2"								28474
1"	S.H.	1/2"								28472
1-1/8"	S.H.	1/2"								28477
6 MM	S.H.	1/4"	530453							
6 MM	S.H.	1/2"	28321							
7 MM	S.H.	1/4"	530454			516554				
7 MM	S.H.	1/2"	28322			516553				
8 MM	S.H.	1/4"	530455			516558				
8 MM	S.H.	1/2"	530450			516555				
10 MM	S.H.	1/4"	530456			516559				
10 MM	S.H.	3/8"		533472		28390				
10 MM	S.H.	1/2"	530451		508405	516556				
11 MM	S.H.	1/4"	530457			530515				
11 MM	S.H.	1/2"	530452			516557				
12 MM	S.H.	1.2"				530520				
13 MM	S.H.	1/8"				28391				
13 MM	S.H.	1/4"		533470		28394				
13 MM	S.H.	3/8"					525137			
13 MM	S.H.	1/2"		533471		516552				
13 MM	S.H.	1"				530519				
14 MM	S.H.	1/4"				530516		28449		
14 MM	S.H.	1/2"						28417	517070	
15 MM	S.H.	1/4"				530517		28450	517067	
15 MM	D.H.	1/4"				530518				
15 MM	S.H.	3/8"						28451		
15 MM	D.H.	3/8"				28630				
15 MM	S.H.	1/2"				516551		28447	517066	
15 MM	D.H.	1/2"				516550				
15 MM	S.H.	3/4"						28446		
17 MM	S.H.	1/4"						28448		
17 MM	S.H.	3/8"							517068	514831
17 MM	S.H.	1/2"						28429	517060	514829
17 MM	D.H.	1"						28445		
18 MM	S.H.	3/4"						543176	17069	

Grooved H16, H30, 41 Series



Use with Power Socket Adapters *(additional cost)*

Termination	12	13	15	16	20	25	29
"A"	3/4	13/16	15/16	1	1-1/4	1-9/16	1-13/16
"B"	1/2	1/2	9/16	9/16	9/16	9/16	5/8
"C"	Socket Part Numbers						
1/4"	28741						
5/16"	28740						
3/8"	28739						
7/16"	28742	504772	28745	28750	28751		25737
1/2"			28746	28748	28752	28766	
9/16"					28753	28768	
5/8"					28754		
3/4"					28755	28767	

* S.H. = Single Hex; D.H. = Double Hex

† FRAGILE: For light duty operations only.

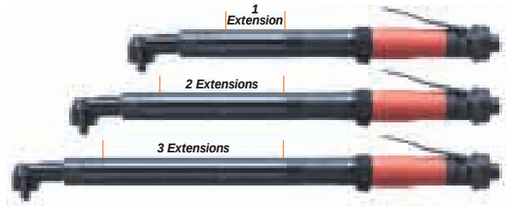
Nutrunners

Torque Reaction Bars & Slave Square Drives

Part No.	Description	Used On
869770	Steel Bar	45, 55 series inline
48047128	Steel Bar	64...D4 series
46037081	Slave Square Drive	64...D4 series
46177030	Slave Square Drive	64...D6 series
46607058	Slave Square Drive	64...D8 series

Extension Kit (3.5")

Part No.	Used On
301081	34 series (37 Nm or higher)
301108	24/34 series (36 Nm or lower)



Anglehead Covers

Part No.	Used On	
	Tool Series	Anglehead
205831	24/34	AH, AM
205833	24/34	AX
205834	24/34	AZ
205837	14	AH
205839	45/55	T
205835	45/55	P
205838	75	V

Torque Signal Kit

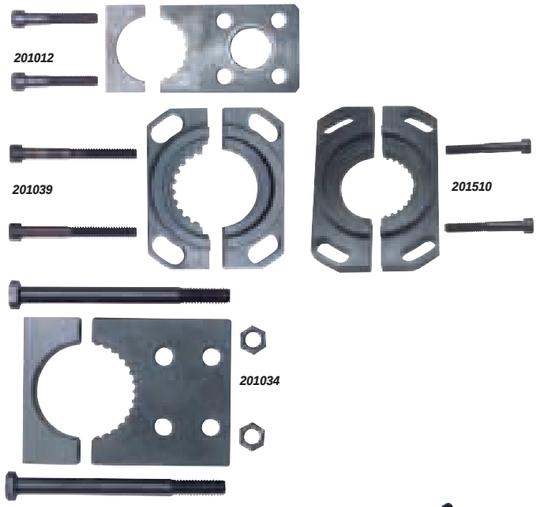
Air signal to indicate clutch shut-off.

Part No.	Used On
201900	24/34 Clecomatic
301106	14 Clecomatic

201900

Mounting Brackets (right angle tools)

Part No.	Description	Used On
201012	Torque reaction bracket	45, 55 series
201039	Fixed tooling bracket	45, 55 series
201510	Torque reaction bracket	75 series
201034	Torque reaction bracket	75 series (standard)



Suspension Bail

Part No.	Used On
867711	8, 35, 45, 55 series

867711

Swivel Suspension Bail

Part No.	Used On
541715-5	24, 34 series
54397004	64...D4 series
46437006	64...D6 series
46607016	64...D8 series
46037036	64...D12 series

541715-5

Assembly Wrench

201898 (Two required)

Joint Simulator

550006

Description	Torque Range		Width		Height		Length		Part No.
	ft.-lbs.	Nm	in.	mm	in.	mm	in.	mm	
Joint Simulator	220-12	300-15	10.4	264	16	406	26	667	550006

Tube Nut Wrenches

Clecomatic Clutch

Cleco®

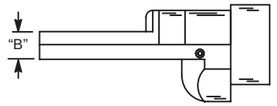
24 Series

Torque Range:
14 – 40 Nm
19 – 54 Ft. Lbs

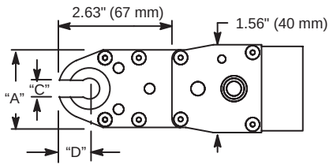
- **One hand two position throttle**
- **External torque adjustment**
- **Self Aligning Socket**

TERMINATION

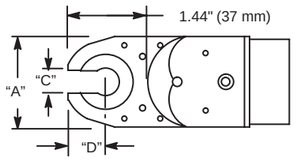
T2, T3 & T4 Head Height



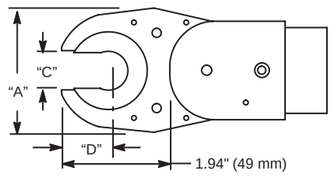
T2 Head



T3 Head



T4 Head



NOTE: Models listed are examples. Use chart on bottom of facing page for specific model required but not listed.

Model Number	Free Speed	Torque Range Ft. Lbs.	Torque Range Nm	Weight		Length		Socket Size		"A"		"B"		"C"		"D"	
	RPM	Min – Max	Min – Max	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
Self Aligning																	
24RTA20T2	240	10.4 - 14.7	14 - 20	4.3	2.0	16.8	426	7/16	—	1.42	36	0.55	14	0.28	7.0	0.53	13.5
24RTA30T3	175	14.7 - 22.1	20 - 30	4.5	2.0	16.7	426	9/16	—	1.65	42	0.59	15	0.51	13	0.73	18.5
24RTA40T4	130	19.2 - 29.5	26 - 40	5.1	2.3	17.7	449	7/8	—	2.36	60	0.59	15	0.71	18	0.93	23.5

GENERAL:
Air Inlet: 1/4" NPT
Tool performance rated at 90 psi (620kPa) air pressure.

EXTRA EQUIPMENT:
Specify socket from page 59

OPTIONAL EQUIPMENT:
Torque signal kit: 201900 (see page 62)

Tube and hose applications, once only accessible by the use of hand tools, can now be tightened by the Cleco family of Tube Nut Wrenches at a speed that maximizes productivity.

Torque repeatability is assured by the proven Clecomatic clutch and low inertia motor. These models use a single lever for the tightening of the fastener and the return of the socket to the open position. The flexibility coupled with the proven capabilities greatly increases the productivity rate of the assembly line.

Make sure that the socket is set to the open position. If not, push the throttle lever down half way to release the socket back to the open position.

Slide the tool on the fastener and push the throttle lever down fully to run the fastener down.

To free the tool, slide the tool off the tightened fastener and operate the throttle lever halfway to release the socket back to the open position.

Tube Nut Sockets

Socket Number	Head	Socket	Ext	Output
KS2ED40	T2	7/16	1/2	Partial Thru
KS2EE00	T2	1/2	Flush	Partial Thru
KS2MB02	T2	8mm	Flush	Double Thru
KS2MD00	T2	10mm	Flush	Partial Thru
KS2MD02	T2	10mm	Flush	Double Thru
KS2MD21	T2	10mm	1/4	Thru
KS2MD23	T2	10mm	1/4	Partial Thru Double
KS2MD31	T2	10mm	3/8	Thru
KS2MD40	T2	10mm	1/2	Partial Thru
KS2MD41	T2	10mm	1/2	Thru
KS2MD43	T2	10mm	1/2	Partial Thru Double
KS2MD60	T2	10mm	3/4	Partial Thru
KS2ME00	T2	11mm	Flush	Partial Thru
KS2ME01	T2	11mm	Flush	Thru
KS2ME02	T2	11mm	Flush	Double Thru
KS2ME32	T2	11mm	3/8	Double Thru
KS2ME61	T2	11mm	3/4	Thru
KS2MF00	T2	12mm	Flush	Partial Thru
KS2MF01	T2	12mm	Flush	Thru
KS2MF02	T2	12mm	Flush	Double Thru
KS2MF03	T2	12mm	Flush	Partial Thru Double
KS2MG00	T2	13mm	Flush	Partial Thru
KS2MG01	T2	13mm	Flush	Thru
KS2MG03	T2	13mm	Flush	Partial Thru Double
KS2MG11	T2	13mm	1/8	Thru
KS2MG22	T2	13mm	1/4	Double Thru
KS2MG23	T2	13mm	1/4	Partial Thru Double
KS2MG53	T2	13mm	5/8	Partial Thru Double
KS2MG61	T2	13mm	3/4	Thru
KS3EC00	T3	3/8	Flush	Partial Thru
KS3EC12	T3	3/8	1/8	Double Thru
KS3ED00	T3	7/16	Flush	Partial Thru
KS3EE00	T3	1/2	Flush	Partial Thru
KS3EF00	T3	9/16	Flush	Partial Thru
KS3EF01	T3	9/16	Flush	Thru
KS3EF03	T3	9/16	Flush	Partial Thru Double
KS3EF41	T3	9/16	1/2	Thru
KS3EG00	T3	5/8	Flush	Partial Thru
KS3EG01	T3	5/8	Flush	Thru
KS3EG02	T3	5/8	Flush	Double Thru

Socket Number	Head	Socket	Ext	Output
KS3EG22	T3	5/8	1/4	Double Thru
KS3EI00	T3	3/4	Flush	Partial Thru
KS3EI02	T3	3/4	Flush	Double Thru
KS3MD00	T3	10mm	Flush	Partial Thru
KS3MD01	T3	10mm	Flush	Thru
KS3ME00	T3	11mm	Flush	Partial Thru
KS3ME40	T3	11mm	1/2	Partial Thru
KS3MF00	T3	12mm	Flush	Partial Thru
KS3MF40	T3	12mm	1/2	Partial Thru
KS3MG00	T3	13mm	Flush	Partial Thru
KS3MG01	T3	13mm	Flush	Thru
KS3MG02	T3	13mm	Flush	Double Thru
KS3MH00	T3	14mm	Flush	Partial Thru
KS3MI00	T3	15mm	Flush	Partial Thru
KS3MJ00	T3	16mm	Flush	Partial Thru
KS3MK00	T3	17mm	Flush	Partial Thru
KS3ML00	T3	18mm	Flush	Partial Thru
KS3MM00	T3	19mm	Flush	Partial Thru
KS3MM02	T3	19mm	Flush	Double Thru
KS4EG00	T4	5/8	Flush	Partial Thru
KS4EG10	T4	5/8	1/8	Partial Thru
KS4EI00	T4	3/4	Flush	Partial Thru
KS4EI10	T4	3/4	1/8	Partial Thru
KS4EK00	T4	7/8	Flush	Partial Thru
KS4EL01	T4	15/16	Flush	Thru
KS4MF00	T4	12mm	Flush	Partial Thru
KS4MH03	T4	14mm	Flush	Partial Thru Double
KS4MK01	T4	17mm	Flush	Thru
KS4ML00	T4	18mm	Flush	Partial Thru
KS4MM00	T4	19mm	Flush	Partial Thru
KS4MM02	T4	19mm	Flush	Double Thru
KS4MP00	T4	22mm	Flush	Partial Thru
KS4MP03	T4	22mm	Flush	Partial Thru Double
KS4MR00	T4	24mm	Flush	Partial Thru
KS4MR01	T4	24mm	Flush	Thru
KS4MU00	T4	27mm	Flush	Partial Thru
KS4MU01	T4	27mm	Flush	Thru
KS4MU03	T4	27mm	Flush	Partial Thru Double
KS4MU40	T4	27mm	1/2	Partial Thru

Cleco TVP-100 Series Torque Verifier

Introducing the new TVP-100 Series Torque Verifier from Cleco.

Low-cost assembly assurance for pneumatic screwdrivers, nutrunners and pulse tools.

The new Cleco TVP-100 verifier improves your assembly process by eliminating operator error caused by early trigger release, fastener cross-threading or re-hits.

The TVP-100 is designed for use with pneumatic clutch screwdrivers/nutrunners and Cleco shut-off pulse tools equipped with torque signal kits.

The TVP-100 provides visual and audio feedback for both individual fastener and batch parameters, assuring that every fastener has been rundown to the capability of the tool.

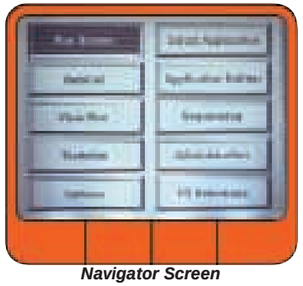
Based on existing Cleco TME controller technology, the TVP-100 navigational screen allows for simple set-up and operation.

The TVP-100 works by reading the signature of a ported pneumatic assembly tool through its fastening cycle. Any deviation from the normal signature caused by re-hits, cross threads, early trigger release or a number of variables will elicit a *NOK* visual and audio signal from the verifier, notifying the operator of an error. Whereas a Cleco DC controller controls the tool and the fastening process, the TVP-100 is a cost-effective way of verifying torque by following the torque signature of a tool.

Highly visible indicators (Cycle Accept, Batch Accept, and Reject)
Input/Output connector for line process interface.
Tool connector
Power entry module with spare fuse.
Easy-to-read menu driven display for ease of setup and analysis.
Cleco
TorqueVerifier
COOPER Tools

Features

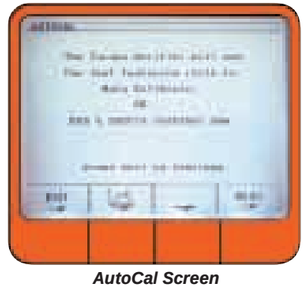
- Verifies fastener installation with *OK/NOK* audio and visual indicators
- On screen verification of individual fastener assembly status with batch count
- VGA screen displays graph for each rundown
- Stores 1,000 rundowns
- Sequencing capability
- 8 parameter sets available for multiple applications
- “Auto Cal” permits fast and easy tool set up for any joint type
- Password protected
- Includes transducer kit and power cable



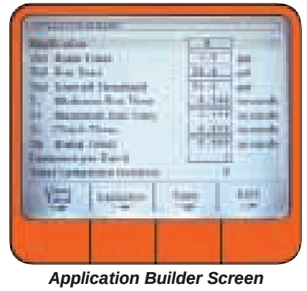
Navigator Screen

Run Screen

AutoCal Screen



AutoCal Screen



Application Builder Screen

Cleco TVP-100 Series Torque Verifier

TVP-100 Series Torque Verifiers

Model Number			Weight		Width		Height		Depth	
115VAC*	230VAC**	Language	lbs.	kg	in.	mm	in.	mm	in.	mm
TVP-110-15-U	TVP-110-30-U	English	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-D	TVP-110-30-D	German	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-S	TVP-110-30-S	Spanish	6	2.72	8.75	222	9.13	232	4.13	105
TVP-110-15-P	TVP-110-30-P	Portuguese	6	2.72	8.75	222	9.13	232	4.13	105

** 115V units are UL and CVL approved.*
*** 230V units are CE compliant.*

All model numbers include power cable, air signal transducer, 25 foot cable to connect TVP to air signal transducer, and 8 foot air line to connect transducer to tool.
NOTE: *Tool must be equipped with torque signal kit.*

24 Volt Inputs/Outputs:

Inputs: Up to 8 Applications, Reset, Suspend

Outputs: Cycle Accept, Batch Accept, Reject

Accessories

Torque Signal Kits

Part No.	Tool Used On
301106	14SCA and 14RAA series
301118	14TTA series
301119	14PTA series
201900	24RAA and 34RAA series
934918	PTH series pulse tools *("C" vintage only)*

Phoenix Connector

Part No.	Description
542892	24 Volt Input/Output Phoenix connector
939348	Strain relief for above connector

Cables

Part No.	Description
207237	115V Transducer and cable
207238	230V Transducer and cable

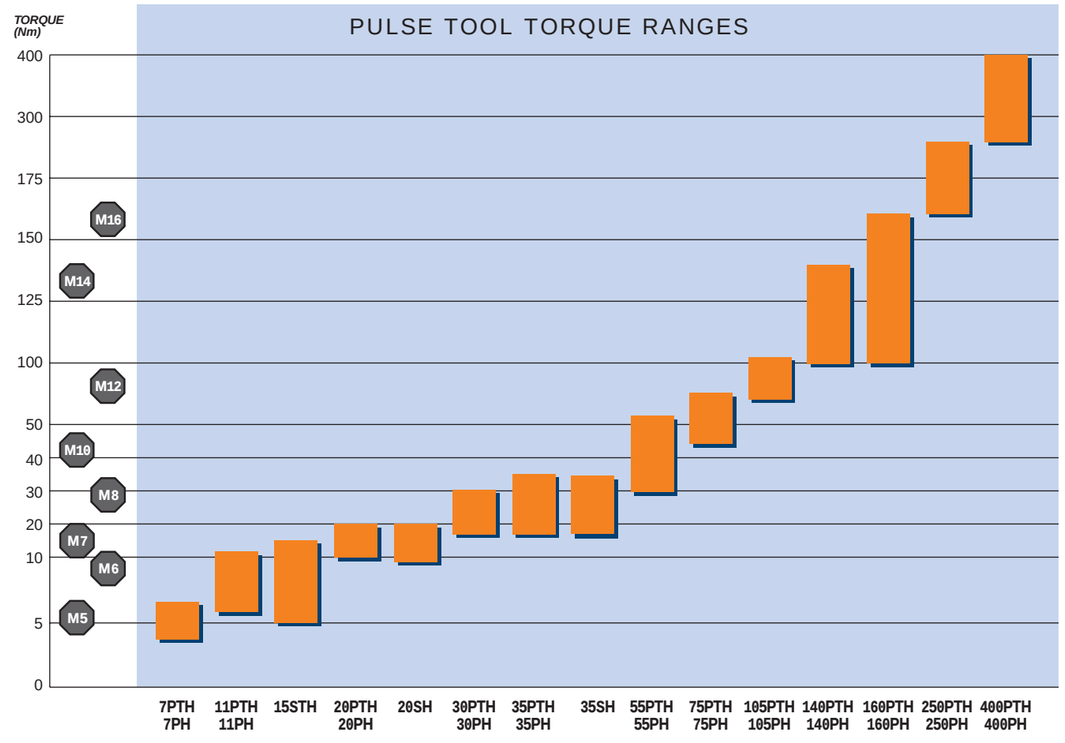
Cleco®

The New World Standard in Pulse Tools

There is no doubt that Cleco pulse tools are the new world standard in pulse tools. Specifically designed to assemble products where quality, high production and efficiency are paramount, these tools will prove their value over and over. Consistent performance, unmatched durability and ease of use and maintenance will make these tools the tools of choice for top-notch production facilities the world over.

Broad Tool Selection

With a variety of shut-off and nonshut-off pulse tools to choose from you're sure to find just the right Cleco pulse tool for the job. See the Cleco Pulse Tool Torque Range Chart below.



Hydraulic Pressure Torque Sensing For Accurate Shut-Off

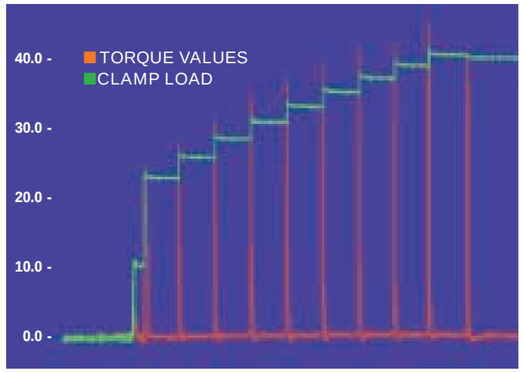
Torque is sensed as hydraulic pressure in this Cooper Power Tools patented system. As fastener resistance increases, hydraulic pressure increases. This pressure accuates the shutoff valve, stopping the motor at the desired torque. Trigger release automatically resets the tool for the next cycle.

Simple External Torque Adjustment

A single external adjustment controls the torque setting. Once the torque is set it stays set. Newly designed torque set screw ensures better clamping to guarantee the torque you set is the torque you get.

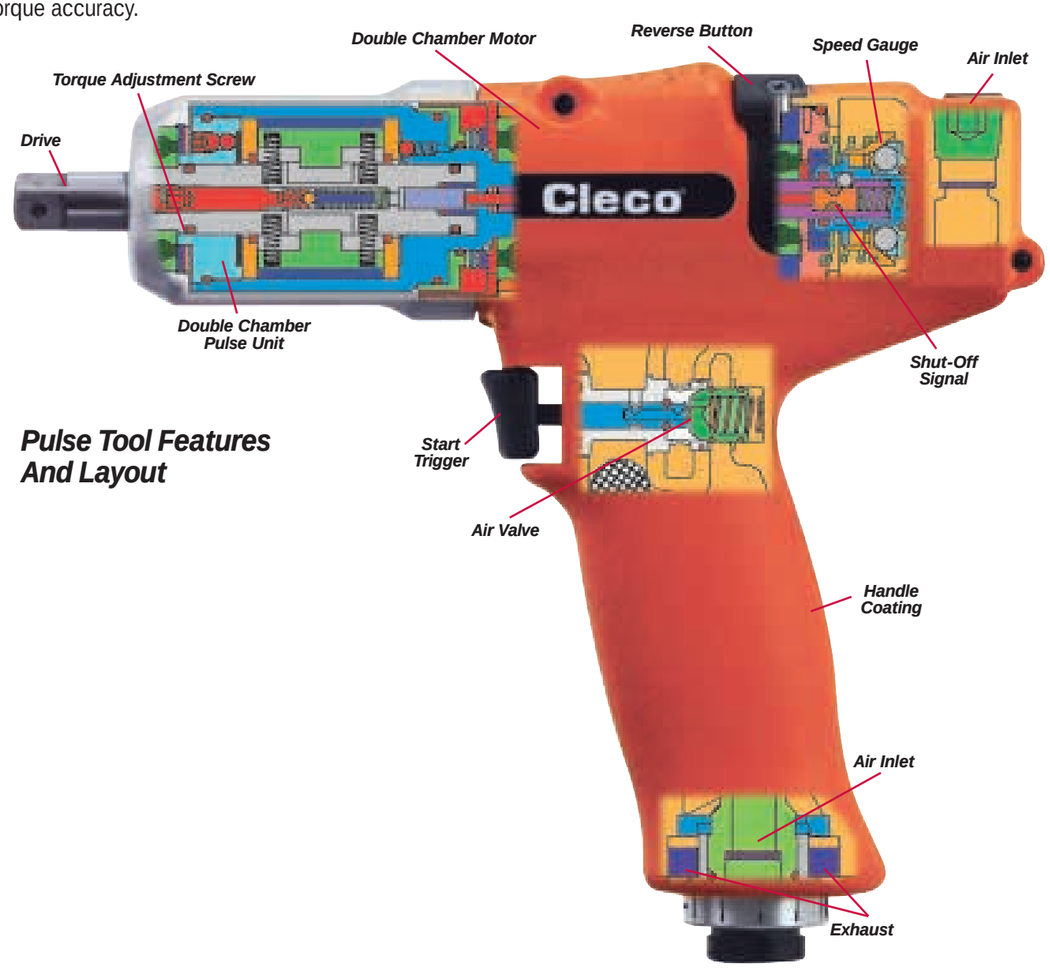
Greater Torque Accuracy

Mechanical governor mechanism ensures that Cleco pulse tools maintain a controlled run-down speed. This will reduce the initial torque spike thereby providing more consistent tightening and greater torque accuracy.

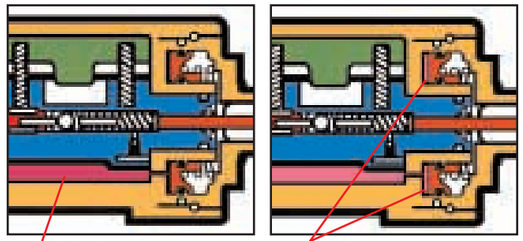


Cleco Operation

The new Cleco Pulse Tools have oilless blades, where a clean assembly is critical.



Pulse Tool Features And Layout



Patented Expansion Chamber Design

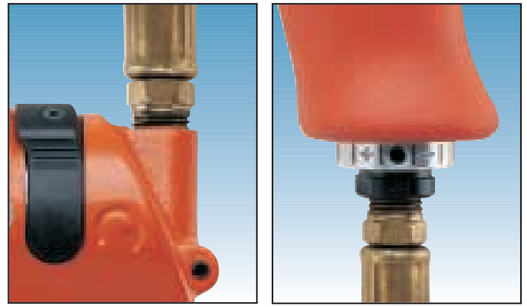
Due to our patented expansion chamber design, Cleco pulse tools have much greater tool life as compared to competitive tools.

During tool use, the hydraulic fluid within the tool becomes warm and expands. Given room to expand, the life of the fluid, as well as that of the tool, are greatly extended.

Operator Comfort is our top priority

Operator comfort is a major concern of today's assembly industry. At a very basic level, the tool must be comfortable to hold.

Top and bottom air inlets provide better customization of the operator's work area. (Pistol models)

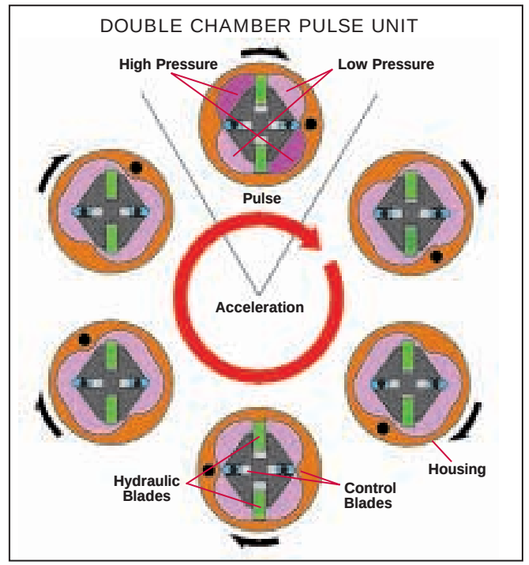


Low Vibration Levels

Double chamber hydraulic units means extremely low vibration levels are achieved. This aids in preventing Cumulative Trauma Disorders (CTDs).

Low Torque Reaction

The hydraulic pulse unit nearly absorbs all the torque reaction that is normally felt by an operator. Ultimately, worker productivity is improved.

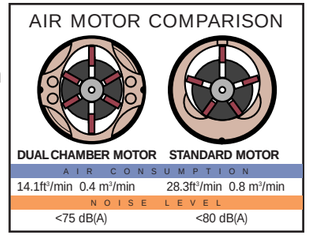


Low Noise Levels

Noise levels of these tools are well below standard air tools for an operator-friendly environment. There is no loud metallic hammering under load.

Greater Performance, Less Air Usage

Our exclusive dual chamber air motor design uses 50% less compressed air than conventional motors and operates without lubrication. This design maintains a practical free speed, yet offers added performance for demanding production schedules. And, without lubrication!



Hydraulic Pulse Air Shut-Off

Cleco®

PTH, STH Series

Torque Range:
2.6 – 400 Nm
1.9 – 295 Ft. lbs

Bolt Size:
M3 – M20
#5 - 3/4”

- Hydraulic pulse air shut-off
- Motor governor equipped
- External torque adjustment
- External exhaust control
- Reversible
- Oilless blades

Model Number			Bolt Size		Free Speed	Torque Range		Length**		Weight**	
1/4” Hex Quick Change	7/16 ” Hex Quick Change	Square Drive*	Gr. 5	Gr. 9.8							
			in.	mm	RPM	Ft.-lbs.	Nm	in.	mm	lbs.	kg
Pistol Grip – **Shut-off Models – Trigger Throttle											
7PTHLC35Q			#10	M5	3500	3.0-5.2	4-7	6.9	174	1.9	0.8
11PTHLC35Q			1/4	M6	3500	4.4-8.1	6.0-11	7.2	182	2.0	0.9
20PTHLC35Q		20PTHLC353	5/16	M8	3500	7.4-14	10-20	7.6	192	2.4	1.1
30PTHLC35Q			5/16	M8	3500	12-22	17-30	8.0	202	2.6	1.2
		35PTHLC353	5/16	M10	3500	12-26	17-35	8.0	202	2.6	1.2
	55PTHLC35Q	55PTHLC354	7/16	M12	3500	23-40	30-55	8.7	216	3.7	1.7
	75PTHLC35Q	75PTHLC354	1/2	M12	3500	33-55	45-75	8.9	226	4.2	1.9
	105PTHC25Q	105PTHC254	1/2	M14	2500	52-77	70-105	8.9	226	5.3	2.4
	140PTHC25Q		5/8	M16	2500	74-103	100-140	9.9	251	5.7	2.6
		160PTHC256	5/8	M16	2500	74-118	100-160	9.8	245	5.7	2.6
Pistol Grip – **Shut-off Models – Trigger Throttle – Frequency Adjustment											
		250PTHFC226	5/8	M16	2200	118-184	160-250	10.3	261	8.8	4.0
		400PTHFC206	3/4	M18	2000	185-295	250-400	11.0	279	11.7	5.3
In-Line – Push-to-Start – Frequency Adjustment											
7STHFA55Q			#10	M5	5500	1.9-4.9	2.6-6.6	8.8	224	1.8	0.83
	35STHFA40Q		5/16	M8	4000	12-26	15-35	10.6	270	3.1	1.4
		35STHFA404	5/16	M8	4000	12-26	15-35	10.2	260	2.9	1.3
In-Line – Lever – Frequency Adjustment											
7STHF55Q			#10	M5	5500	1.9-4.9	2.6-6.6	10.3	262	2.1	0.93
15STHF30Q			1/4	M6	3000	3.6-11	5.0-15	11.4	290	2.4	1.1
	35STHF40Q		5/16	M8	4000	12-26	15-35	12.2	310	3.3	1.5
		35STHF404	5/16	M8	4000	12-26	15-35	11.8	300	3.3	1.5
In-Line – Lever – Non Frequency Adjustment											
15STH30Q			1/4	M6	3000	3.6-11	5.0-15	11.4	290	2.4	1.1

(*) Model #’s ending with 3 = 3/8” square drive;
4 = 1/2” square drive; 5 = 5/8” square drive;
6 = 3/4” square drive.
(**) Approximate values. Some variance may occur between square and Q drives.

GENERAL:
Air Inlet: 1/8” NPT (7STH)
3/8” NPT (105-400),
1/4” NPT (All other models)
Tool performance rated @ 87 psi (6 bar) air pressure.

STANDARD EQUIPMENT:
Suspension bail and torque adjusting wrench.
Torque signal port (pistol grip models only)

OPTIONAL EQUIPMENT:
Additional accessories: Page 73

Hydraulic Pulse Air/Non Shut-Off

Cleco®

PH Series

Torque Range:
4 – 400 Nm
3 – 295 Ft. lbs

Bolt Size:
M5 – M18
#10 - 3/4”

- External exhaust control
- Reversible
- Oilless blades

Model Number			Bolt Size		Free Speed RPM	Torque Range		Length**		Weight**	
1/4” Hex Quick Change	7/16” Hex Quick Change	Square Drive*	Gr. 5	Gr. 9.8							
			in.	mm		Ft.-lbs.	Nm	in.	mm	lbs.	kg
Pistol Grip – **Non Shut-off Models – Trigger Throttle											
7PHL90Q			#10	M5	9000	3.0-5.2	4-7	6.3	159	1.8	0.8
11PHL80Q		11PHL802	1/4	M6	8000	4.4-8.1	6-11	6.6	167	1.9	0.9
20PHL70Q		20PHL703	5/16	M8	7000	7.4-14	10-20	6.9	176	2.3	1.1
30PHL70Q			5/16	M10	7000	13-22	17-30	7.2	183	2.6	1.2
		35PHL703	5/16	M10	7000	13-26	17-35	7.3	186	2.6	1.2
	55PHL60Q	55PHL604	7/16	M12	6000	22-40	30-55	7.9	201	3.7	1.7
	75PHL50Q	75PHL504	1/2	M12	5000	33-55	45-75	8.3	211	4.0	1.8
	105PH55Q	105PH554	1/2	M14	5500	52-77	70-105	8.9	225	5.3	2.4
	140PH45Q		5/8	M16	4500	74-103	100-140	9.8	250	5.7	2.6
		160PH456	5/8	M16	4500	74-118	100-160	9.8	250	5.7	2.6
Pistol Grip – **Non Shut-off Models – Trigger Throttle – Frequency Adjustment											
		250PHF406	5/8	M16	4000	118-184	160-250	10.3	261	8.6	3.9
		400PHF356	3/4	M18	3500	184-295	250-400	11.0	279	11.5	5.2

(*) Model #’s ending with 2 = 1/4” square drive;
3 = 3/8” square drive; 4 = 1/2” square drive;
5 = 5/8” square drive; 6 = 3/4” square drive.
(**) Approximate values. Some variance may occur between square and Q drives. For 7-75 Series Models, small handle can be ordered by substituting “S” for “L” in model number

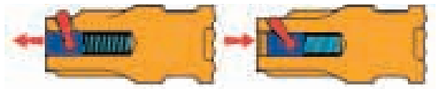
GENERAL:
Air Inlet: 3/8” NPT (105-160),
1/4” NPT (All other models).
Tool performance rated @ 87 psi (6 bar) air pressure.

STANDARD EQUIPMENT:
Suspension bail and torque adjusting wrench.

OPTIONAL EQUIPMENT:
Additional accessories: Page 73

Cleco®

New Generation Telescopic Impact Wrenches



Patented Positive Lock Socket Retainer

With the patented positive lock socket retainer (U.S. Pat 3, 890,051), sockets snap on...and stay on until released. Offered on spline drives, the retainer can be serviced without disassembling the tool.

Exclusive through-bolt construction reduces replacement costs

Steel front end/motor housing/handle are clamped together by four high-strength steel bolts. This exclusive feature provides better tool performance, eliminates stripped threads and loose inserts in motor housing.

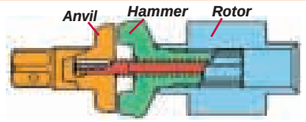
Positive oil-foam lubrication system reduces major cause of impact wrench maintenance.

Cleco impact wrenches feature a unique oil-foam bath that provides positive lubrication for the hammer, anvil and other working parts.

The system is designed so that if the impact mechanism runs low on 30 wt. oil, the tool will stop running, thus eliminating one of the major causes of impact wrench failure ... lack of lubrication. By simply refilling the oil reservoir, the tool can be returned to service.

Other impact wrenches soon throw off grease; run dry causing extra wear that shortens tool life and increases maintenance cost.

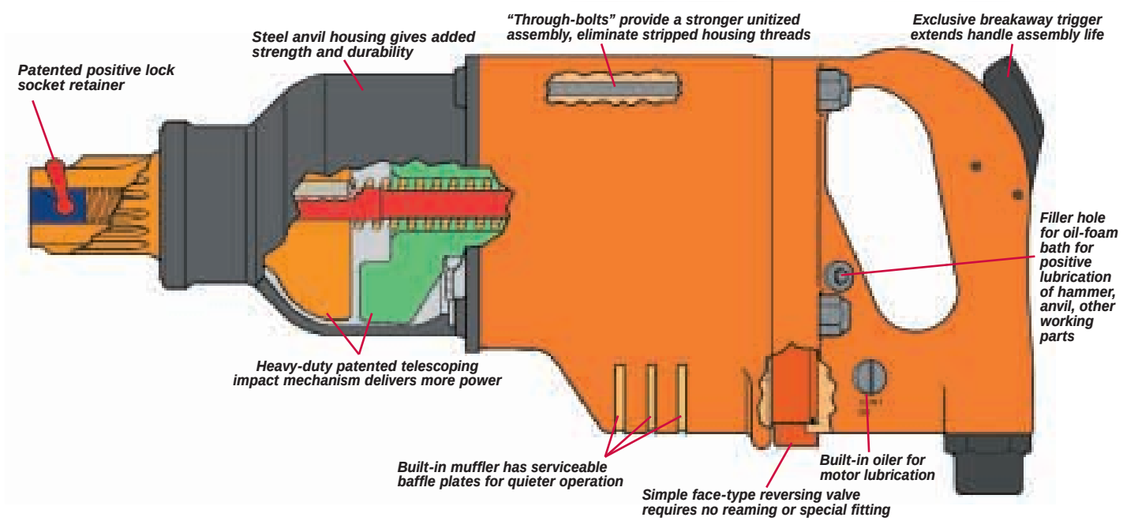
Proven heavy-duty patented telescoping impact mechanism adds power...cuts weight...reduces shock to the operator.



The smooth-hitting Cleco telescopic impact mechanism is patented (U.S. Pat. 3,156,3340) and has only three major parts - hammer, anvil and rotor... providing more power directly to the fastener. The hammer is splined to the inside of the motor, which then impacts directly on the anvil, delivering more power per blow.

Other important features include:

- Comfortable grip handle
- Outside, inside triggers and pistol grip models
- Multiposition dead handle, and spade type “D” handle available
- Throttle can be feathered for speed control
- Simple face-type reversing valve simplifies maintenance
- Forged hammer and anvil for greater durability
- Rotor bearings and steel motor end plates fit either end of motor, reducing spare parts inventory and repair time.


Patented positive lock socket retainer
Steel anvil housing gives added strength and durability
“Through-bolts” provide a stronger unitized assembly, eliminate stripped housing threads
Exclusive breakaway trigger extends handle assembly life
Filler hole for oil-foam bath for positive lubrication of hammer, anvil, other working parts
Heavy-duty patented telescoping impact mechanism delivers more power
Built-in muffler has serviceable baffle plates for quieter operation
Simple face-type reversing valve requires no reaming or special fitting
Built-in oiler for motor lubrication

Impact Wrench Bolt Selection Chart

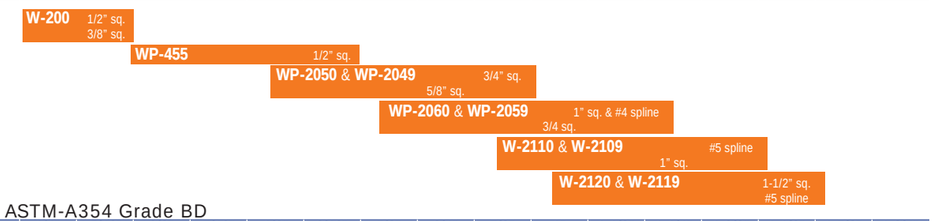
The Impact Wrench Bolt Selection Chart will assist you in selecting impact wrenches for specific applications. Torque and tension figures are based on 70% of the proof load of a given size and grade UNC bolt. Torque values are based on non-lubricated (dry) conditions. Bolt grades and sizes are those which are the most commonly secured with impact wrenches.

SAE Grade 1

Bolt Diameter		1/4”	5/16”	3/8”	7/16”	1/2”	9/16”	5/8”	3/4”	7/8”	1”	1-1/8”	1-1/4”	1-3/8”	1-1/2”	1-5/8”	1-3/4”
Torque	Ft.-lb.	3	6	11	18	28	43	55	97	155	230	340	480	660	860	–	–
	Nm	4.1	8.1	15	24	38	58	75	132	210	312	460	650	900	1,170	–	–
Tension	lb.	730	1,210	1,800	2,460	3,280	4,200	5,200	7,000	10,000	14,000	18,200	23,000	28,000	34,600	–	–
	kN	3.24	5.38	8.0	10.9	14.6	18.7	23.1	31.1	47.1	62.3	81	102	126	154	–	–

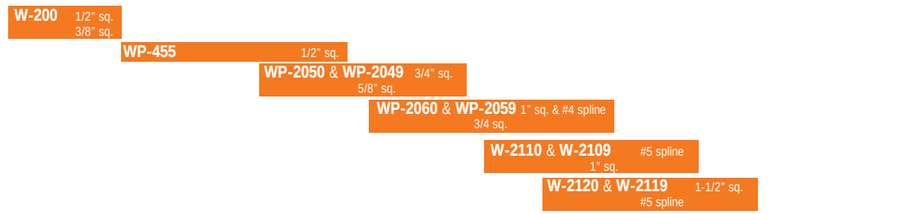
SAE Grade 5

Bolt Diameter		1/4”	5/16”	3/8”	7/16”	1/2”	9/16”	5/8”	3/4”	7/8”	1”	1-1/8”	1-1/4”	1-3/8”	1-1/2”	1-5/8”	1-3/4”
Torque	Ft.-lb.	8	16	28	46	70	110	140	250	405	600	770	1.080	1,470	1,950	–	–
	Nm	10.8	21.7	38	62	95	149	190	340	550	810	1,040	1,460	1,930	2,640	–	–
Tension	lb.	1,900	3,100	4,600	6,350	8,450	10,900	13,500	20,000	27,400	36,000	41,000	52,000	64,000	77,000	–	–
	kN	8.4	13.8	20.4	28.2	37.6	48.5	60	89	122	160	182	231	285	342	–	–



SAE Grade 8 / ASTM-A354 Grade BD

Bolt Diameter		1/4”	5/16”	3/8”	7/16”	1/2”	9/16”	5/8”	3/4”	7/8”	1”	1-1/8”	1-1/4”	1-3/8”	1-1/2”	1-5/8”	1-3/4”
Torque	Ft.-lb.	11	23	40	65	99	159	198	350	566	848	1,245	1,750	2,375	3,135	–	–
	Nm	14.9	31.2	54.2	88	134	216	268	475	767	1,150	1,690	2,370	3,220	4,250	–	–
Tension	lb.	2,740	4,400	6,510	8,930	11,920	15,290	18,980	28,050	38,800	50,900	66,360	84,000	103,570	125,330	–	–
	kN	12.2	19.6	28.9	39.7	53	68	84.4	125	172	226	295	374	461	557	–	–

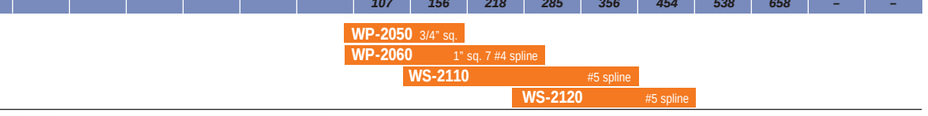


ASTM A325*

Bolt Diameter		1/4”	5/16”	3/8”	7/16”	1/2”	9/16”	5/8”	3/4”	7/8”	1”	1-1/8”	1-1/4”	1-3/8”	1-1/2”	1-5/8”	1-3/4”
Torque	Ft.-lb.	1						200	355	570	850	1,060	1,495	1,960	2,600	–	–
	Nm							271	481	773	1,150	1,440	2,030	2,660	3,530	–	–
Tension	lb.							10,000	28,000	39,000	51,000	56,000	71,000	85,000	103,000	–	–
	kN							44.5	124	173	227	249	316	378	458	–	–

ASTM A490*

Bolt Diameter		1/4”	5/16”	3/8”	7/16”	1/2”	9/16”	5/8”	3/4”	7/8”	1”	1-1/8”	1-1/4”	1-3/8”	1-1/2”	1-5/8”	1-3/4”
Torque	Ft.-lb.	1						250	435	715	1,070	1,580	2,125	2,780	3,700	–	–
	Nm							339	590	970	1,451	2,125	2,882	3,770	5,020	–	–
Tension	lb.							24,000	35,000	49,000	64,000	80,000	102,000	121,000	148,000	–	–
	kN							107	156	218	285	356	454	538	658	–	–



*Note: ASTM-325 and ASTM A490 bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn-of-the-nut method. For detailed information, consult the bolt manufacturer.

Cleco®

Torque Range:
20 – 2450 Nm
15 – 1800 Ft. Lbs.

Bolt Size:
M10 – M30
7/16 – 1 1/2”

- Lever and trigger start
- Reverse or forward bias
- 6” extended and spline drives available

Model Number	Bolt Size GR. 5 in	Bolt Size GR. 9.8 mm	Square Drive in	Recommended Torque Range ft-lbs.	Recommended Torque Range Nm	Impacts Per Minute	Free Speed RPM	Length in.	Length mm	Weight lbs.	Weight kg	Side to Center in.	Side to Center mm
Inline – Lever Start													
WL-200-BQ	7/16	M10	7/16*	15-50	20-68	3,200	3,000	8.5	216	3.1	1.4	1	25
WL-200-3	7/16	M10	3/8	15-50	20-68	3,200	3,000	8.5	216	3.1	1.4	1	25
WL-200-4	1/2	M10	1/2	15-60	20-81	3,200	3,000	8.5	216	3.4	1.5	1	25
Pistol Grip – Trigger Start													
WP-200-BQ	7/16	M10	7/16*	15-50	20-68	3,200	3,000	6.5	165	3.4	1.6	1	25
WP-200-3	7/16	M10	3/8	15-50	68-20	3,200	3,000	6.5	165	3.4	1.5	1	25
WP-200-4	1/2	M10	1/2	15-60	20-81	3,200	3,000	6.5	165	3.4	1.5	1	25
WP-455-4R	1/2	M20	1/2	37-370	50-502	1,400	6,500	7	176	5.3	2.4	–	–
WP-455-4P***	1/2	M20	1/2	37-370	50-502	1,400	6,500	7	176	5.3	2.4	–	–
WP-2050-6	7/8	M20	3/4	125-600	170-800	1,000	6,000	6.4	162	7.8	3.5	1.6	42
WP-2060B-6	1 1/8	M24	3/4	250-700	350-950	1,000	4,000	7.8	197	12	5.4	1.8	46
WP-2060B-8	1 1/8	M24	1	250-900	350-1200	1,000	4,000	7.8	197	12.1	5.5	1.8	46
WP-2110B-8	1 3/8	M30	1	750-1650	1000-2250	880	4,600	9.5	241	20.8	9.4	2.2	56
Pistol Grip – Trigger Start – Biased Reverse Power****													
WP-2049-6	7/8	M20	3/4	125-550	170-750	1,000	6,200	6.4	162	7.8	3.5	1.6	42
WP-2059-6	1 1/8	M24	3/4	250-700	350-950	1,000	4,000	7.8	197	12	5.4	1.8	46
WP-2059-8	1 1/8	M24	1	250-800	350-1100	1,000	4,000	7.8	197	12.1	5.5	1.8	46
WP-2059-8-6E**	1 1/8	M24	1	250-750	350-1000	1,000	4,000	13.8	350	14.3	6.5	1.8	46
WP-2109B-8	1 3/8	M30	1	750-1650	1000-2250	880	4,300	9.5	241	20.8	9.4	2.2	56
WPS-2109B	1 3/8	M30	#5 SPLINE	750-1800	1100-2450	880	4,300	9.8	248	21.3	9.6	2.2	56

* Quick change chuck
** 6” Extended spindle
*** Pin retainer
****Breakaway torque capacity in reverse:
2049 Series: 750 ft-lbs. (1000 Nm)
2059 Series: 1200 ft-lbs. (1600 Nm)
2109 Series: 2500 ft-lbs. (3400 Nm)

GENERAL:
Air Inlet: 1/4” NPT (WL-200, WP-200, WP-455 series) 3/8” NPT (WP-2049, WP-2050, WP-2059, WP-2060 series) 1/2” NPT (WP-2109, WP-2110 series)
Min. Hose Size: 1/4” (WL-200, WP-200, WP-455 series) 3/8” (WP-2049, WP-2050, WP-2059, WP-2060 series
Tool performance rated at 90 psi (620kPa) air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual

OPTIONAL EQUIPMENT:
Additional accessories: Page 72

Cleco®

Torque Range:
1000 – 4000 Nm.
750 – 3000 Ft. Lbs.

Bolt Size:
M30 – M36
1 3/8 – 1 1/2”

- Inside or outside lever
- Positive lock socket retainer (spline drive)
- Multiposition dead handle
- Oil foam bath
- Reverse or forward bias

Model Number Inside Trigger	Model Number Outside Trigger	Suitable for Bolt Size in.	Suitable for Bolt Size mm	Square Drive in	Recommended Torque Range ft.-lbs.	Recommended Torque Range Nm	Impacts Per Minute	Free Speed RPM	Length in.	Length mm	Weight lbs.	Weight kg	Side to Center in.	Side to Center mm
Trigger Start - Spade handle														
WT-2110-8		1 1/2	M30	1	750-1650	1000-2250	880	4,600	12.9	327	21	9.5	2.2	56
WTS-2120		1 1/2	M36	#5 Spline	1200-2800	1600-3800	850	3,300	14.3	362	27.6	12.5	2.3	59
WT-2120-12	W-2120-12	1 1/2	M36	1 1/2	1200-3000	1600-4000	850	3,300	14.3	362	27.6	12.5	2.3	59
Trigger Start - Spade Handle - Biased Reverse Power**														
WT-2109-8-6E*		1 3/8	M30	1	750-1550	1000-2100	880	4,300	18.9	479	24.6	11.2	2.2	56
WT-2109-8	W-2109-8	1 3/8	M30	1	750-1650	1000-2250	880	4,300	12.9	327	21	9.5	2.2	56
WTS-2109		1 3/8	M30	#5 Spline	800-1800	1100-2450	880	4,300	13.1	333	21.5	9.8	2.2	56
WT-2119-12		1 1/2	M36	1 1/2	1200-2600	1600-3500	820	3,300	14.3	362	29	13.1	2.3	59
WTS-2119	WS-2119	1 1/2	M36	#5 Spline	1200-2500	1600-3400	820	3,300	14.25	362	29	13.1	2.3	59

*6” Extended spindle
**Breakaway torque capacity in reverse:
2109 Series: 2500 ft-lbs. (3400 Nm)
2119 Series: 3500 ft-lbs. (4700 Nm)

GENERAL:
Air Inlet: 1/2” NPT
Min. Hose Size: 1/2” (WP-2109, WP-2110 series) 1/2” NPT (WP-2109, WP-2110 series)
5/8” (WP-2119, WP-2120 series)Tool performance rated at 90 psi (620kPa)
air pressure.

STANDARD EQUIPMENT:
Operating instructions & service manual
Dead handle bracket
Dead Handle

OPTIONAL EQUIPMENT:
Additional accessories: Page 72

6 Point Impact Sockets

Part No.	Hex Opening	Overall Length	Diameter Nose End	Diameter Drive End	Opening Depth
3/8" Square Drive Sockets, SAE					
3112	3/8	1-1/4	19/32	3/4	1/4
3114	7/16	1-1/2	11/16	3/4	9/32
3116	7/16	1/2	1-1/2	13/16	11/32
3118	7/16	9/16	1-1/2	7/8	7/16
1/2" Square Drive Sockets, SAE					
5112	3/8	1-1/2	5/8	15/16	1/4
5114	7/16	1-1/2	11/16	15/16	9/32
5116	1/2	1-1/2	13/16	15/16	11/32
5120	5/8	1-1/2	1	1	7/16
5122	11/16	1-1/2	1-1/8	1-1/8	7/16
5124	3/4	1-1/2	1-1/8	1-1/8	15/32
3/4" Square Drive Sockets, SAE					
7128	7/8	2	1-1/2	1-1/2	9/16
7132	1	2	1-5/8	1-5/8	5/8
7136	1-1/8	2-1/8	1-3/4	1-3/4	3/4
7140	1-1/4	2-1/8	2	1-3/4	13/16
7144	1-3/8	2-1/8	2-1/8	2-1/8	13/16
7148	1-1/2	2-1/4	2-1/4	2-1/8	1
1" Square Drive Sockets, SAE					
8132	1	2-1/8	1-5/8	2	13/16
8140	1-1/4	2-1/8	2-1/8	2-1/8	13/16
8144	1-3/8	2-1/8	2-1/8	2-1/8	13/16
8148	1-1/2	2-1/4	2-1/4	2-1/8	15/16
8156	1-3/4	2-3/8	2-5/8	2-5/8	11/16
8164	2	2-5/8	3	2-5/8	1-3/16
1-1/2" Square Drive Sockets, SAE					
9156	1-3/4	2-7/8	2-7/8	3	1-1/8
9160	1-7/8	3	3-1/8	3	1-1/4
9164	2	3-1/8	3-1/4	3-1/4	1-3/8
9172	2-1/4	3-1/4	3-3//8	3-1/4	1-1/2
3/8" Square Drive Sockets, Metric					
12mm13	12	38.1	19.1	19.1	7.2
14mm13	14	38.1	22.2	22.2	11.1
16mm13	16	38.1	23.8	23.8	11.1
1/2" Square Drive Sockets, Metric					
16mm15	16	38.1	25.4	25.4	11.1
18mm15	18	38.1	28.6	28.6	11.1
20mm15	20	38.1	31.7	31.7	11.9
22mm15	22	38.1	33.3	33.3	14.3
5/8" Square Drive Sockets, Metric					
24mm16	24	51	38.1	38.1	15.9
3/4" Square Drive Sockets, Metric					
28mm17	28	54	44.4	44.4	19.1
30mm17	30	54	47.6	44.4	19.1
32mm17	32	54	50.8	44.4	20.6
34mm17	34	54	54.0	54.0	20.6
36mm17	36	57	57.1	54.0	23.8
1" Square Drive Sockets, Metric					
32mm18	32	54	54.0	54.0	20.6
34mm18	34	54	54.0	54.0	20.6
36mm18	36	57	57.1	54.0	23.9
38mm18	38	57	57.1	54.0	23.9
42mm18	42	60	63.5	54.0	23.9
46mm18	46	64	69.8	66.7	26.9
1-5/8" Spline Drive, SAE Hex Opening Sockets					
SPL-140	1-1/4	3-1/4	2-3/8	2-3/8	1-3/4
SPL-148	1-1/2	3-3/8	2-3/8	2-3/8	1-1/2
SPL-156	1-3/4	3-1/2	2-7/8	2-7/8	1-3/4
SPL-164	2	3-5/8	3-1/4	3-1/4	21

Suspension Brackets and Bails

Part Number	Description	For use with Impact Wrench Model Number
869910	Bail	WP-200
869909	Hanger	WL-200
869335	Bracket	WP-2049/2050
869398	Bracket	WP-2059/2060
865021*	Bracket	W-2109/2110
867989	Bracket	W-2119/2120

* If used with Dead Handle, order one (1) 865007 Spacer.

Hex Extensions

Part Number	Hex Drive (In.)	Type of Lock	Overall Length	
			In.	mm
Male Hex Drive with 1/2" Male Square				
EX-501-3	7/16	Pin	3	76
EX-501-4	7/16	Pin	4	102
EX-501-6	7/16	Pin	6	152
Male Hex Drive with 3/8" Male Square				
EX-371-3	7/16	Pin	3	76
EX-371-4	7/16	Pin	4	102
EX-371-6	7/16	Pin	6	152

Hex Drive Nutsetters

Part Number	Size (In.)	Overall Length (In.)	Socket Nose Diameter (In.)
7/16" 6 Point			
6N-1416-3	1/2	3	13/16
6N-1416-4	1/2	4	13/16
6N-1418-3	9/16	3	7/8
6N-1418-4	9/16	4	7/8
6N-1420-3	5/8	3	1
6N-1420-6	5/8	6	1

Pulse Tool Covers

Part Number	Tool Series
542821-1	7 Series
542821-1	11 Series
542821-2	20 Series
542821-3	30/35 Series
542821-4	55 Series
542821-4	75 Series
542821-5	105 Series
542821-6	140/160 Series

Rubber Tool Stand

Part Number	Tool Series
931041 *(one piece)*	7PTH – 105PTH/PH
930119 *(two pieces)*	140/160PTH/PH/400PTH

Hydraulic Oil

Part Number	Container Size
539317	one quart

Torque Signal Kit

Air signal to indicate shut-off.

Part Number	Used on
934918	PTH series pulse tools ("C" vintage only)

Square Drive Adapters

Part Number	Length		Square Drive	
	in.	mm	in.	mm
For 1/4" Hex Slip Chuck				
EX-250-2	2.0	50.8	1/4	6.35
EX-370	2.0	50.8	3/8	9.53
For 7/16" Hex Slip Chuck				
EX-371	2.0	50.8	3/8	9.53
EX-5012	2.0	50.8	1/2	12.70
EX-620-3	3.0	76.2	5/8	15.88

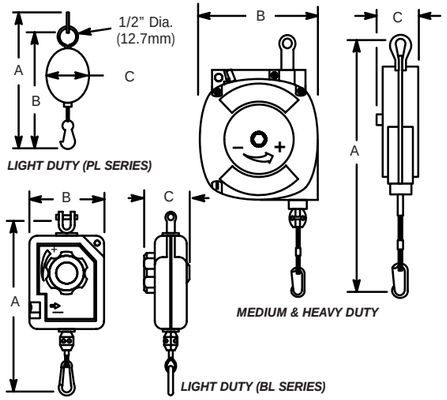
Hydraulic Filler Unit

Part Number			Tool Series
Filler Unit Only	Connector Only	Filler Unit Complete	
928483	931968	928476	7/11PTH/PH/SH
928483	931968	928476	20/35PTH/PH/SH
928483	932072	928477	55/75PTH/PH
928483	932072	928477	105/140/160PTH/PH

Ergonomic Tool Balancers

Capacity:
0.5 – 20.5 kg
1.0 – 45 Lbs

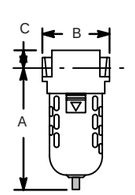
- External tension Adjustment
- 360° Swivel
- Retracting In-Line Cable



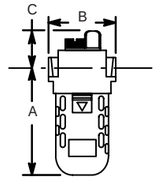
Model Number	Lock Feature	Capacity		"A"		"B"		"C"		Weight	
		lbs.	kg	in	mm	in	mm	in.	mm	lbs.	kg
Light Duty – 4.6 ft. (1.4m) Cable Travel											
PL-12A	–	12.0-1.0	5.5-0.5	6.8	171	5.1	130	2.3	58	–	–
Light Duty – 5.0 ft. (1.5m) Cable Travel											
200427	–	2.0-0	.9-0	10.9	277	4.4	112	1.6	41	1.3	0.6
200428	–	4.0-2.0	1.8-.9	10.9	277	4.4	112	1.6	41	1.3	0.6
200429	–	5.0-3.0	2.3-1.4	10.9	277	4.4	112	1.6	41	1.3	0.6
Light Duty – 5.2 ft. (1.6m) Cable Travel											
BL-2A	–	2.0-1.0	0.9-0.5	10.4	263	4.0	102	2.2	56	1.1	0.5
BL-4A	–	4.0-20	1.8-0.9	10.4	263	4.0	102	2.2	56	1.1	0.5
Light Duty – 6.7 ft. (2.0m) Cable Travel											
BL-6A	–	6.0-4.0	2.7-1.8	12.9	327	5.5	140	3.1	79	3.3	1.5
BLL-6A	Ratchet	6.0-4.0	2.7-1.8	12.9	327	5.5	140	3.1	79	3.3	1.5
BL-8A	–	8.0-6.0	3.6-2.7	12.9	327	5.5	140	3.1	79	3.3	1.5
BLL-8A	Ratchet	8.0-6.0	3.6-2.7	12.9	327	5.5	140	3.1	79	3.3	1.5
Medium Duty – 6.6ft. (2.0m) Cable Travel											
BM-13A	Automatic	13-9.0	5.9-4.1	13.8	350	6.9	175	4.5	114	9.0	4.1
BML-13A	Automatic/Ratchet	13-9.0	5.9-4.1	13.8	350	6.9	175	4.5	114	9.0	4.1
BM-18A	Automatic	18-13	8.2-5.9	13.8	350	6.9	175	4.5	114	9.0	4.1
Medium Duty – 6.0ft. (1.8m) Cable Travel											
BM-25A	Automatic	25-18	11.4-8.2	20.7	527	7.8	197	6.6	169	19	8.6
BM-35A	Automatic	35-25	15.9-11.4	20.7	527	7.8	197	6.6	169	19	8.6
BM-45A	Automatic	45-35	20.5-15.9	20.7	527	7.8	197	6.6	169	19	8.6

Filters, Lubricators

- Modular Construction



Filter



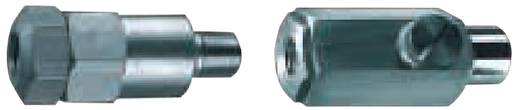
Lubricator

Model Number	NPT	Air Flow		Bowl Capacity		"A"		"B"		"C"	
	in.	SCFM	m^3/min	oz.	liter	in.	mm	in.	mm	in.	mm
Filters											
F02-M	1/4	35	9.9	5.0	0.15	5.6	142	3.0	76	0.9	23
F03-M	3/8	44	12.9	5.0	0.15	5.6	142	3.0	76	0.9	23
Lubricators – Economist (Standard Mist)											
L03-EP	3/8	48	6.2	5.0	0.15	4.8	122	3.0	76	1.6	41

Modular Sleeve & Bracket
(with O-Ring)

Model: MS-102
Combination sleeve/wall mounting bracket as shown. Designed for mounting a single unit or combination of units directly to the wall. The sleeve and mounting bracket can be ordered assembled at the factory, or just the mounting bracket alone to be used on existing modular sleeves.

Airline Filter and Lubricator



Part Number	Description	NPT	Air Flow		Max. Pressure	
		in.	SCFM	m³/min	psig	bar
45-0211	Filter w/cartridge*	1/4	17	8.0	100	6.9
45-0212	Filter cartridge	–	–	–	–	–
45-0201	Lubricator**	1/4	22	10	100	6.9
45-0301	Lubricator**	3/8	22	10	100	6.9

GENERAL: Use where inconvenient for standard filter or lubricator.
* NOTE: Filter will not remove water.
** NOTE: One ounce resevoir good for an average eight hour shift.

Air Hoses

Part Number	Hose I.D.		Fittings (NPT)		Length	
	in.	mm	in.	mm	ft.	m
A139856	3/16	4.7	1/8	1/8	6.0	1.8
45-1307	3/16	4.7	1/8	1/4	7.0	2.1
45-1408	1/4	6.4	1/4	1/4	8.0	2.4
45-1409	1/4	6.4	1/8	1/4	8.0	2.4
45-1508	5/16	7.9	1/4	1/4	8.0	2.4
45-1610	3/8	9,5	3/8	3/8	10	3.0
45-1810	1/2	12.7	3/8	1/2	10	3.0
45-1812	1/2	12.7	1/2	1/2	12	3.7
45-1825	1/2	12.7	1/2	1/2	25	7.6

GENERAL: 3/16" & 1/4" hoses have braided covers, all others have neoprene covers.
* NOTE: 3/8"-24 is a straight thread

Steel Handle Bushings

Part Number	Size
881276	*1/4 in. MPT x 1/4 in. FPT
841554	†1/4 in. MPT x 1/4 in. FPT
841553	3/8 in. MPT x 1/4 in. FPT
841552	3/8 in. MPT x 3/8 in. FPT
841551	1/2 in. MPT x 3/8 in. FPT
841555	1/2 in. MPT x 1/2 in. FPT
841556	3/4 in. MPT x 3/4 in. FPT

* Light duty for rotary tools
† Heavy duty for percussion tools.

Swivel Hose Couplings

Part Number	NPT in.
A20744	1/4
A20741	3/8
A20764	1/2

Air Pressure Gage Kit

Part Number	Description
A13157	Gage, needle, cap & case

Quick Disconnect Fittings

Fitting Type*	NPT in.	Nominal Size		
		1/4"	3/8"	1/2"
Coupler *(male NPT)*				
	1/8	45-0710	–	–
	1/4	45-0711	45-0713	–
	3/8	45-0712	–	–
	1/2	–	–	45-0717
Coupler *(female NPT)*				
	3/8	45-0732	45-0734	45-0736
Nipple *(male NPT)*				
	1/8	45-0720	–	–
	1/4	–	45-0724	–
	3/8	45-0722	45-0725	45-0726
	1/2	–	–	45-0727
Nipple *(female NPT)*				
	1/4	–	45-0744	–
	3/8	45-0742	45-0745	45-0746
	1/2	–	–	45-0747
Nipple *(with hose barbs)*				
	1/4**	45-0748	–	–
	1/2**	–	–	45-0753

* NOTE: Nipples of one size will not fit couplers of another size.
** NOTE: Indicates inside diameter of hose.
NOTE: 1/4" nominal will pass 49 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 30 cfm.
3/8" nominal will pass 90 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 53 cfm.
1/2" nominal will pass 168 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 109 cfm.

Activeswivel

Part No.	NPT in.	Air Flow		Max. Pressure		Weight	
		SCFM	m³/min	psig	bar	lbs.	kg
SW-102	1/4	25	7.1	150	10.4	0.20	0.09
SW-103	3/8	45	12.7	150	10.4	0.40	0.18
SW-104	1/2	65	18.4	150	10.4	0.80	0.36
SWR-102*	1/4	25	7.1	150	10.4	0.25	0.11

* NOTE: Equipped with built-in flow regulator..

Lubricants

Part Number	Size	Description	M.S.D.S. No.
Oils			
540397	1 qt. plastic	Air line oil	CPT-153
533485	1 gal. metal	Air line oil	CPT-153
536333	1 gal. metal	High film strength	CPT-154
45-0918	1 qt. plastic	Air line oil *(Dotco)*	CPT-155
45-0919	1 gal metal	Air line oil *(Dotco)*	CPT-155
539317	1 qt. plastic	Hydraulic oil *(Pulse)*	CPT-157
Greases			
513156	18 oz. can	Teflon grease	CPT-145
540395	2 oz. tube	Teflon grease	CPT-145

NOTE: Under normal conditions of use, lubrication products sold separately for or used within these tools should not cause an exposure hazard. Refer to the Material Safety Data Sheet (M.S.D.S.) for Safety and Disposal information. M.S.D.S. sheets shown in the chart are available upon request from Cooper Power Tools.

Push Type Grease Gun

(Grease not included - see 540395 above)

Part Number: 45-1982

Service Tools

"T" Wrenches

1021201	5/32" Hex socket screws
1021202	3/16" Hex socket screws

To rermove and replace hex socket screws in tool housings.

Hex Key Wrenches

1008860	1/8"
1004341	5/32"
106443	3/16"

Torx Torque Adjustment Keys

536633	H10 series tools
535508	H16/H30 series tools

Open End Wrenches

1006626	3/˝6" & 5/16"
1011691	7/16"
1014471	1/2"
1004958	9/16" & 1-33/64" Hex Box
1009950	19/32" & 1-7/16" Hex Box
1014472	11/16"
1010911	7/8"
1010929	1"
1016694	1-1/8"
1008163	2-7/32"

Snap Ring Pliers

1008360 External sizes 18 thru 23

1007488 External sizes 25 thru 87

1008702 External sizes 37 thru 93

1007487 External sizes 106 thru 175

Apex Fastener Tools

APEX

Quality Fastener Tools

For more than half a century Apex has maintained the position of world leader in industrial fastening tools. Many power and insert bits, socket combinations and other drivers/adapters pioneered by Apex have today become industry standards, while Apex quality, service and selection give you unsurpassed value.

More Quality For Your Money

Apex quality starts with the selection of raw materials. Only carefully chosen, high grade tool steel is used to make Apex industrial fastener tools. Next, each tool is precision machined from solid bar stock to exacting standards of accuracy. You always get a snug, secure fit – a fit that is not possible from stamped tools.

Finally, each Apex fastener tool is tempered with our exclusive heat treating process. During this step the degree of hardness is determined based upon the application.

Fast Delivery

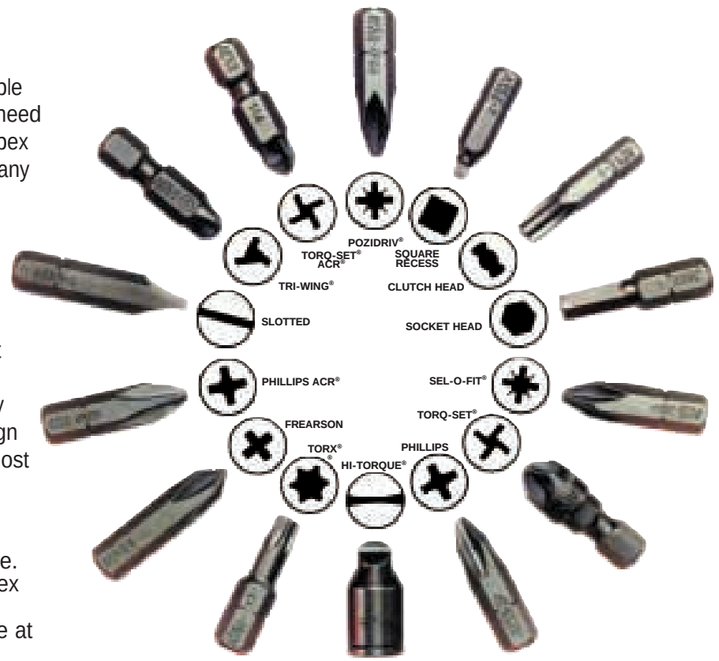
All Apex standard catalog items are available off-the-shelf for immediate delivery. If you need special assistance with your order, your Apex manufacturer's representative can handle any questions your may have.

Special Orders

Apex offers the broadest selection of screw driver and nut runner tools available, from bits, sockets and universal wrenches to extensions, adapters and nut setters. If you have a special application, contact your Apex representative. We may have what you need in stock, or can design and produce special fastener tools for almost any application.

Ordering Information

Apex products are distributed world-wide. For a catalog of the complete line of Apex quality fastener tools or to locate your nearest Apex distributor, visit our website at ***www.cooperpowertools.com*** or ***www.apex-tools.com*.**



Registered Trade Marks: HI-TORQUE, Voi-Shan; TORX, Camcar Division of Textron; ACR, POZIDRIV, TORQ-SET and TRI-WING, Phillips International Co.; SUPADRIV, EIS (Fasteners) LTD.; SEL-O-FIT, FLIP-TIP, and Apex, Cooper Industries, Cooper Power Tools Division, Apex Operation.

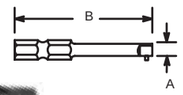
Insert Bits

(1/4" hex for socket head cap screws and set screws)

Part Number	Hex Size In.	"A" In.	"A" mm	Cap Screw	Set Screw
185-00	1/16	1.00	25.4	1	5.6
185-0	5/64	1.00	25.4	2.3	8
185-1	3/32	1.00	25.4	4.5	10
185-9	7/64	1.00	25.4	6	—
185-2	1/8	1.00	25.4	8	1/4
185-10	9/64	1.00	25.4	8	—
185-3	5/32	1.31	33.3	10	5/16
185-4	3/16	1.31	33.3	1/4	3/8
185-5	7/32	1.31	33.3	—	7/16
185-6	1/4	1.31	33.3	5/16	1/2
185-7	5/16	1.25	31.8	3/8	5/8
185-8	3/8	1.25	31.8	7/16, 1/2	3/4

Square Drive Adapter

(1/4" hex drive sockets) Use with Quick Change and Bit & Finder Models, except as noted.



Part Number	"A" Sq. Drive	"B" In.	"B" mm	Bushing No.
EX250-2	1/4	2.00	50.8	–
EX250-3	1/4	3.00	76.2	847295*
EX250-4	1/4	4.00	101.6	–
EX250-6	1/4	6.00	152.4	–
EX370	3/8	1.63	41.3	–
EX370-3	3/8	3.00	76.2	847295*
EX500-2	1/2	2.00	50.8	–
EX500-3	1/2	3.00	76.2	–

* Note: Required for bit and finder models.

Hex Extensions

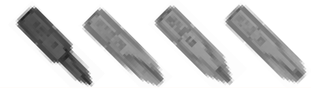
Part Number	Hex Drive (In.)	Type of Lock	Overall Length In.	Overall Length mm
Male Hex Drive with 1/2" Male Square				
EX-501-3	7/16	Pin	3	76
EX-501-4	7/16	Pin	4	102
EX-501-6	7/16	Pin	6	152
Male Hex Drive with 3/8" Male Square				
EX-371-3	7/16	Pin	3	76
EX-371-4	7/16	Pin	4	102
EX-371-6	7/16	Pin	6	152

Hex Drive Nutsetters

Part Number	Size (In.)	Overall Length (In.)	Socket Nose Diameter (In.)
7/16" 6 Point			
6N-1416-3	1/2	3	13/16
6N-1416-4	1/2	4	13/16
6N-1418-3	9/16	3	7/8
6N-1418-4	9/16	4	7/8
6N-1420-3	5/8	3	1
6N-1420-6	5/8	6	1

Insert Bits

Used with Bit Holders
(all bits are 1.0" (25.4 mm) long)



Point Size	Part Number Phillips	Part Number Pozi-Drive	Wood Flat & Oval	Wood Round	Machine & Self-tapping Flat, Oval & Pan	Machine & Self-tapping Fillister	Machine & Self-tapping Truss	Machine & Self-tapping Binding
0	446-0	446-1P2D	0.1	0.1	0.1	0.1	0.1	0.1
1	HPL-1	440-1PZD	2-4	2-4	2-4	2-4	2-4	2-4
2	HPI-2	440-2PZD	5-8	5-10	5-10	5-10	6-10	5-10
3	HPI-3	440-3PZD	10-16	12-16	12-16	12-5/16	12-16	12-1/4

6 Point Sockets

Part No.	Hex Opening	Overall Length	Diameter Nose End	Diameter Drive End	Opening Depth
3/8" Square Drive Sockets, SAE					
3112	3/8	1-1/4	19/32	3/4	1/4
3114	7/16	1-1/2	11/16	3/4	9/32
3116	7/16	1/2	1-1/2	13/16	11/32
3118	7/16	9/16	1-1/2	7/8	7/16
1/2" Square Drive Sockets, SAE					
5112	3/8	1-1/2	5/8	15/16	1/4
5114	7/16	1-1/2	11/16	15/16	9/32
5116	1/2	1-1/2	13/16	15/16	11/32
5120	5/8	1-1/2	1	1	7/16
5122	11/16	1-1/2	1-1/8	1-1/8	7/16
5124	3/4	1-1/2	1-1/8	1-1/8	15/32
3/4" Square Drive Sockets, SAE					
7128	7/8	2	1-1/2	1-1/2	9/16
7132	1	2	1-5/8	1-5/8	5/8
7136	1-1/8	2-1/8	1-3/4	1-3/4	3/4
7140	1-1/4	2-1/8	2	1-3/4	13/16
7144	1-3/8	2-1/8	2-1/8	2-1/8	13/16
7148	1-1/2	2-1/4	2-1/4	2-1/8	1
1" Square Drive Sockets, SAE					
8132	1	2-1/8	1-5/8	2	13/16
8140	1-1/4	2-1/8	2-1/8	2-1/8	13/16
8144	1-3/8	2-1/8	2-1/8	2-1/8	13/16
8148	1-1/2	2-1/4	2-1/4	2-1/8	15/16
8156	1-3/4	2-3/8	2-5/8	2-5/8	11/16
8164	2	2-5/8	3	2-5/8	1-3/16
1-1/2" Square Drive Sockets, SAE					
9156	1-3/4	2-7/8	2-7/8	3	1-1/8
9160	1-7/8	3	3-1/8	3	1-1/4
9164	2	3-1/8	3-1/4	3-1/4	1-3/8
9172	2-1/4	3-1/4	3-3//8	3-1/4	1-1/2
3/8" Square Drive Sockets, Metric					
12mm13	12	38.1	19.1	19.1	7.2
14mm13	14	38.1	22.2	22.2	11.1
16mm13	16	38.1	23.8	23.8	11.1
1/2" Square Drive Sockets, Metric					
16mm15	16	38.1	25.4	25.4	11.1
18mm15	18	38.1	28.6	28.6	11.1
20mm15	20	38.1	31.7	31.7	11.9
22mm15	22	38.1	33.3	33.3	14.3
5/8" Square Drive Sockets, Metric					
24mm16	24	51	38.1	38.1	15.9
3/4" Square Drive Sockets, Metric					
28mm17	28	54	44.4	44.4	19.1
30mm17	30	54	47.6	44.4	19.1
32mm17	32	54	50.8	44.4	20.6
34mm17	34	54	54.0	54.0	20.6
36mm17	36	57	57.1	54.0	23.8

Apex® Anti-Mar Free-Spin Covers For Sockets And Sockets With Extensions Greatly Reduce In-System Damage.

Reduce Costly "Re-Works"

Apex Anti-Mar Free-Spin cover assemblies protect painted, plated, polished or critical surfaces from direct incidental contact with sockets and extensions. With Apex Anti-Mar Free-Spin covers, in-system damage is greatly reduced.

Low-Cost Durable Protection

Apex Anti-Mar Free-Spin covers are the most economical protection you can get. The durable nylon construction provides many cycles of protection, shift after shift.

Popular Sizes Available Now!

All Apex Anti-Mar Free-Spin cover assemblies on the adjacent charts are available for quick delivery.

Simple Design Installs In Seconds!

Apex Anti-Mar Free-Spin covers can be installed in seconds. No special trips to the tool crib are required.

Ordering Information

Apex products are distributed world-wide. For a catalog of the complete line of Apex quality fastener tools or to locate your nearest Apex distributor, visit our website at ***www.cooperpowertools.com*** or ***www.apex-tools.com.***

Apex Has A Wide Selection Of Anti-Mar Engineered Solutions

For many years Apex has been producing protective covers for our quality products. Each was custom designed by our staff of engineers to work in a specific application. Over time we have developed a vast library of designs that work not only for their original applications but may also be a solution for one of your applications.

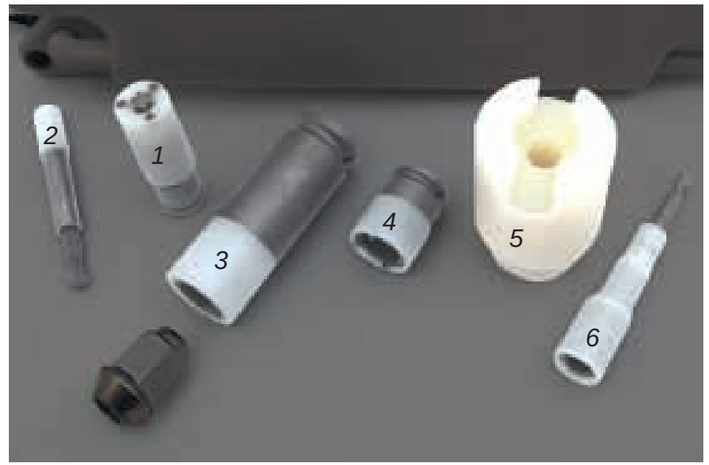
Our covered product designs include sockets, sockets and extensions, bits and bit holders, nutsetters and many more.

Each design was developed with one or more of the following features and capabilities:

- Free-spinning covers which allow the tool to rotate independently of the cover for safety considerations.
- Spring-loaded covers which retract when engaging the fastener.
- Embedded magnets in covers increase holding force on fastener.
- Single-piece construction to reduce material interfaces.
- Press fit/non-free-spinning for reduced envelope size in tight clearance applications.

Apex recognizes the need in assembly operations for the protection of painted or finished surfaces. We can coat just about any Apex bit or socket with a protective nylon sleeve. Shown above are some recently manufactured solutions with a brief description of the application.

1. ***Pick-up Truck Tailgate to Bed***
Torx® T-45 Bit with magnets within the sleeve to secure fastener.
2. ***Sun Visor Installation***
Phillips bit used with magnetic bit holder. Nylon sleeve reduces headliner and visor damage.
3. ***Lug Nut Assembly***
Magnetic 19MM socket has nylon coating to protect chrome plated and polished wheels.
4. ***Antenna Driver***
Four-prong antenna bezel nutdriver with nylon sleeve to reduce damage to painted surface.
5. ***Spare Tire Wing Nut Assembly***
All nylon socket to install low torque wing nut.
6. ***Painted Door Assembly***
Only the nutsetter spins within the nylon sleeve, eliminating any mark on surface around the fastener. Also protects nearby painted surfaces.



Ordering Information

Apex products are distributed world-wide. For a catalog of the complete line of Apex quality fastener tools or to locate your nearest Apex distributor, visit our website at ***www.cooperpowertools.com*** or ***www.apex-tools.com.***

Utica Torque Verification Tools

Torque verification products for all your critical assembly applications

Utica products, ranging from torque screwdrivers, ratchets and dial wrenches to electronic torque analyzers offer high quality solutions for the many critical torque applications in today's assembly market. Utica products add value to the assembly process by enabling you to assess and control both critical joint values as well as the torque accuracy of production tools. Whether the electronic, automotive, aerospace or general industry, Utica provides a wide range of products for most any assembly application.

Quality

Our goal is to provide high quality torque tools that will maintain accuracy as long as possible. Each Utica tool is calibrated according to ASME B107.14M standards before leaving the plant, using test equipment traceable to NIST. Certification can be provided with each tool for a nominal charge. Cooper Power Tools manufacturing processes are ISO 9001 certified, which means that the Utica brand is manufactured to the highest standards.

Warranty

Torque products (excluding accessories) are warranted for:
Product – One (1) year from date of purchase to be free of defects in materials and workmanship.
Calibration – Ninety (90) days from date of purchase.
This warranty does not extend to any product, which has been altered or abused.

Ordering Information

Utica products are distributed world-wide. For a complete catalog or to locate your nearest Utica distributor, visit our website at ***www.cooperpowertools.com*** or ***www.uticatools.com*.**

"Click" Type Torque Sensing Wrenches

- Torque accuracy is +/- 4% of setting right hand (clockwise) and +/- 6% of setting left hand (counterclockwise) within upper 80% of scale.
- Audible "click" and/or a few degrees of travel provide accurate torque verification.
- Ergonomic handle and slim, lightweight design reduces fatigue and facilitates use in confined work areas.

Ratchet Head *(Nm Graduations)*

Model No.	Drive Size	Range Nm	Graduation Nm	Length Nm	Length in.	Weight mm	Weight lb.
TCM-75R	3/8	15–75	.5	14.75	375	2.2	1.0

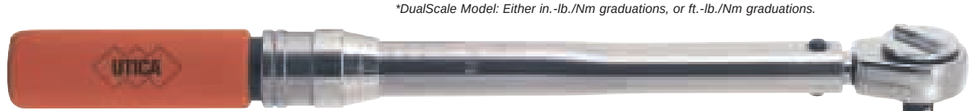
Ratchet Head *(in.-lb. Graduations)*

Model No.	Drive Size	Range in.-lb.	Range Nm	Graduation in.-lb.	Graduation Nm	Length in.	Length mm	Weight lb.	Weight kg
TCI-150RA-3/8"	3/8	30–150	2.8–17.5	1.0	.113	9.5	242	0.9	0.4

Ratchet Head *(ft.-lb. Graduations)*

Model No.	Drive Size	Range ft.-lb.	Range Nm	Graduation in.-lb.	Graduation Nm	Length in.	Length mm	Weight lb.	Weight kg
TCI-150FRN*	1/2	30–150	47–210	1.0	1.4	18.5	470	1.4	0.6

**DualScale Model: Either in.-lb./Nm graduations, or ft.-lb./Nm graduations.*



TCM-75R

Dial Indicating Torque Wrenches

- Torque accuracy of +/- 4% Indicated Value (from 20% to 100% capacity) in either clockwise or counterclockwise direction
- Nickel-plated handle for improved durability
- Memory indicator remains at maximum torque achieved for accurate torque verification
- Slim drive for tight work areas

DA-8

Nm/in.-lb. Scale

Model No.	Drive Size (in.)	Range Nm	Range in.-lb	Graduations Nm	Graduations in.-lb	Weight lb.	Weight kg
DA-8	1/4	0–8.2	0–75	0.2	2.5	1.8	0.8
DA-16	3/8	0–16.5	0–150	0.5	2.5	1.9	0.9
DA-35	3/8	0–35.0	0–300	0.5	5.0	1.9	0.9
DA-70	3/8	0–70.0	0–600	1.0	10.0	2.0	0.9

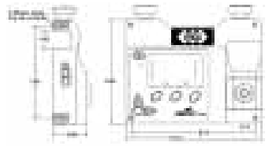
Nm/ft.-lb. Scale

Model No.	Drive Size (in.)	Range Nm	Range ft.-lb	Graduations Nm	Graduations ft.-lb	Weight lb.	Weight kg
DA-70F	3/8	0–70	0–50	1.0	1.0	2.0	0.9
DA-140F	1/2	0–140	0–100	2.0	2.0	3.3	1.5
DA-240F	1/2	0–240	0–175	5.0	5.0	6.7	3.0
DA-320F*x	1/2	0–320	0–250	10.0	5.0	5.5	2.5
DA-480F*x	3/4	0–480	0–350	10.0	10	12.4	5.6

**x includes extension bar *z includes extension bar and helper bar*

TA4

110V Model	220V Model	Torque Range English	Torque Range Metric	Square Dr. In.	Square Dr. mm
TA4-05B-1	TA4-05B-2	5–50 in.-lb.	.56–5.64 Nm	1/4	6.35
TA4-10B-1	TA4-10B-2	10–100 in.-lb.	1.13–11.29 Nm	1/4	6.35
TA4-05F-1	TA4-05F-2	5–50 ft.-lb.	6.78–67.79 Nm	3/8	9.53
TA4-25F-1	TA4-25F-2	25–250 ft.-lb	33.90–338.95 Nm	1/2	12.7



**Each TA4 unit comes complete with the appropriate rundown adapter, power supply, RS-232 cable.*

TA4 Accessories

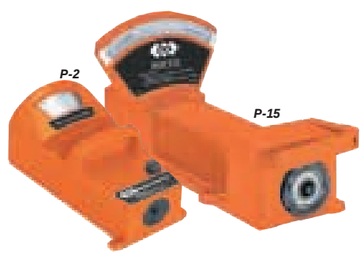
Run Down Adapters*†

Part No.	English	Metric	Sq. Drive
01-9232	5–50 in.-lb	56–564 cNm	1/4"
01-9233	10-100 in.-lb	112-1129 cNm	1/4"
01-9240	5-50 ft.-lb.	6-67 Nm	3/8"
01-9242	25-250 ft.-lb.	33-338 Nm	1/2"

†Required for use with power tools.
Square drives conform to ASME B107 standards for proper fit with transducer.

Power Supplies*

Part No.	
01-9201	110V power supply for all TA4 systems
01-9202	220V power supply for all TA4 systems



P-2

P-15

P-2 & P-15 Torque Analyzers

Model No.	Graduations	Capacity	Height In.	Height mm	Width In.	Width mm	Length In.	Length mm	Weight Lb.	Weight kg	Ordering No.
P-2B	.5 in.-lbs.	20-2 in.lbs.	5.6	143	7.3	184	12	305	18	8.2	810681
MP-2B (metric)	.5 cm-kg	22-2 cm-kg	5.6	143	7.3	184	12	305	18	8.2	810682
P-15	2 in.-lbs.	150-5 in.lbs.	8	203	5	127	18	457	23	10.4	810002
MP-15 (metric)	5 cm-kg	180-5 cm-kg	8	203	5	127	18	457	23	10.4	810151

GENERAL
Drive Size: 1/4" male hex (P-2 series)
5/16"male hex (P-15 series)

mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.m
0.100	.0039		**5.159**	**.2031**	**13/64**	10.200	.4016		15.300	.6024		20.300	.7992	
0.200	.0079		5.200	.2047		10.300	.4055		15.400	.6063		20.400	.8031	
0.300	.0118		5.300	.2087		**10.319**	**.4063**	**13/32**	**15.478**	**.6094**	**39/64**	20.500	.8071	
0.397	**.0156**	**1/64**	5.400	.2126		10.400	.4094		15.500	.6102		20.600	.8110	
0.400	.0157		5.500	.2165		10.500	.4134		15.600	.6142		**20.638**	**.8125**	**13/16**
0.500	.0197		**5.556**	**.2188**	**7/32**	10.600	.4173		15.700	.6181		20.700	.8150	
0.600	.0236		5.600	.2205		10.700	.4219		15.800	.6220		20.800	.8189	
0.700	.0276		5.700	.2244		**10.716**	**.4219**	**27/64**	**15.875**	**.6250**	**5/8**	20.900	.8228	
0.794	**.0313**	**1/32**	5.800	.2283		10.800	.4252		15.900	.6250		21.000	.8268	
0.800	.0315		5.900	.2323		10.900	.4291		16.000	.6299		**21.034**	**.8182**	**53/64**
0.900	.0354		**5.953**	**.2344**	**15/64**	11.000	.4331		16.100	.6339		21.100	.8307	
1.000	.0394		6.000	.2362		11.100	.4370		16.200	.6378		21.200	.8307	
1.100	.0433		6.100	.2402		**11.113**	**.4375**	**7/16**	**16.272**	**.6406**	**41/64**	21.200	.8346	
1.191	**.0469**	**3/64**	6.200	.2441		11.200	.4409		16.300	.6417		21.300	.8386	
1.200	.0472		6.300	.2480		11.300	.4449		16.400	.6457		21.400	.8425	
1.300	.0512		**6.350**	**.2500**	**1/4**	11.400	.4488		16.500	.6496		**21.431**	**.8438**	**27/32**
1.400	.0551		6.400	.2520		11.500	.4528		16.600	.6535		21.500	.8465	
1.500	.0591		6.500	.2559		**11.509**	**.4531**	**29/64**	**16.669**	**.6563**	**21/32**	21.600	.8504	
1.588	**.0625**	**1/16**	6.600	.2598		11.600	.4567		16.700	.6575		21.700	.8543	
1.600	.0630		6.700	.2638		11.700	.4606		16.800	.6614		21.800	.8583	
1.700	.0669		**6.747**	**.2656**	**17/64**	11.800	.4646		16.900	.6654		**21.828**	**.8594**	**55/94**
1.800	.0709		6.800	.2677		11.900	.4685		17.000	.6693		21.900	.8622	
1.900	.0748		6.900	.2717		**11.906**	**.4688**	**15/32**	**17.066**	**.6719**	**43/64**	22.000	.8661	
1.984	**.0781**	**5/64**	7.000	.2756		12.000	.4724		17.100	.6732		22.100	.8701	
2.000	.0878		7.100	.2795		12.100	.4764		17.200	.6772		22.200	.8740	
2.100	.0827		**7.144**	**.2813**	**9/32**	12.200	.4803		17.300	.6811		**22.225**	**.8750**	**7/8**
2.200	.0866		7.200	.2835		12.300	.4843		17.400	.6850		22.300	.8780	
2.300	.0906		7.300	.2874		**12.303**	**.4844**	**31/64**	**17.463**	**.6875**	**11/16**	22.400	.8819	
2.381	**.0938**	**3/32**	7.400	.2913		12.400	.4882		17.500	.6890		22.500	.8858	
2.400	.0945		7.500	.2953		12.500	.4921		17.600	.6929		22.600	.8898	
2.500	.0984		**7.541**	**.2969**	**19/64**	12.600	.4961		17.700	.6968		**22.622**	**.8906**	**57/64**
2.600	.1024		7.600	.2992		**12.700**	**.5000**	**1/2**	17.800	.7008		22.700	.8937	
2.700	.1063		7.700	.3031		12.800	.5039		**17.859**	**.7031**	**45/64**	22.800	.8976	
2.778	**.1094**	**7/64**	7.800	.3071		12.900	.5079		17.900	.7047		22.900	.9016	
2.800	.1102		7.900	.3110		13.000	.5118		18.000	.7087		23.000	.9055	
2.900	.1142		**7.938**	**.3125**	**5/16**	**13.097**	**.5156**	**33/64**	18.100	.7126		**23.019**	**.9063**	**29/32**
3.000	.1181		8.000	.3150		13.100	.5157		18.200	.7165		23.100	.9094	
3.100	.1220		8.100	.3189		13.200	.5197		**18.256**	**.7188**	**23/32**	23.200	.9134	
3.175	**.1250**	**1/8**	8.200	.3228		13.300	.5236		18.300	.7205		23.300	.9173	
3.200	.1260		8.300	.3268		13.400	.5276		18.400	.7244		23.400	.9213	
3.300	.1299		**8.334**	**.3281**	**21/64**	**13.494**	**.5313**	**17/32**	18.500	.7283		**23.416**	**.9219**	**59/64**
3.400	.1339		8.400	.3307		13.500	.5315		18.600	.7323		23.500	.9252	
3.500	.1378		8.500	.3346		13.600	.5354		**18.653**	**.7344**	**47/64**	23.600	.9291	
3.572	**.1406**	**9/64**	8.600	.3386		13.700	.5394		18.700	.7362		23.700	.9331	
3.600	.1417		8.700	.3425		13.800	.5433		18.800	.7402		23.800	.9370	
3.700	.1457		**8.731**	**.3438**	**11/32**	**13.891**	**.5469**	**35/64**	18.900	.7441		23.900	.9409	
3.800	.1496		8.800	.3465		13.900	.5472		19.000	.7480		24.000	.9449	
3.900	.1535		8.900	.3504		14.000	.5512		**19.050**	**.7500**	**3/4**	24.100	.9488	
3.969	**.1563**	**5/32**	9.000	.3543		14.100	.5551		19.100	.7520		24.200	.9528	
4.000	.1575		9.100	.3583		14.200	.5591		19.200	.7559		**24.209**	**.9531**	**61/64**
4.100	.1624		**9.128**	**.3594**	**23/64**	**14.288**	**.5625**	**9/16**	19.300	.7598		24.300	.9567	
4.200	.1654		9.200	.3622		14.300	.5630		19.400	.7638		24.400	.9606	
4.300	.1693		9.300	.3661		14.400	.5669		**19.447**	**.7656**	**49/64**	24.500	.9646	
4.366	**.1719**	**11/64**	9.400	.3701		14.500	.5709		19.500	.7677		24.600	.9685	
4.400	.732		9.500	.3740		14.600	.5748		19.600	.7717		**24.606**	**.9688**	**31/32**
4.500	.1772		**9.525**	**.3750**	**3/8**	**14.684**	**.5781**	**37/64**	19.700	.7756		24.700	.9724	
4.600	.1811		9.600	.3780		14.700	.5787		19.800	.7795		24.800	.9764	
4.700	.1850		9.700	.3819		14.800	.5827		**19.844**	**.7813**	**25/32**	24.900	.9803	
4.763	**.1875**	**3/16**	9.800	.3858		14.900	.5866		19.900	.7835		25.000	.9843	
4.800	.1890		9.900	.3898		15.000	.5906		20.000	.7874		**25.003**	**.9844**	**63/64**
4.900	.1929		**9.922**	**.3902**	**25/64**	**15.081**	**.5938**	**19/32**	20.100	.7913		25.100	.9882	
5.000	.1969		10.000	.3937		15.100	.5945		20.200	.7953		25.200	.9921	
5.100	.2008		10.100	.3976		15.200	.5984		**20.241**	**.7969**	**51/64**	25.300	.9961	
												25.400	**1.000**	**1**

Torque Conversion – In. Lbs. (Nm)

In.	Nm	In.	Nm	In.	Nm
5	0.6	50	5.7	140	15.8
10	1.1	60	6.8	150	17.0
15	1.7	70	7.9	160	18.1
20	2.3	80	9.0	170	19.2
25	2.8	90	10.2	180	20.3
30	3.4	100	11.3	190	21.5
35	4.0	110	12.4	200	22.6
40	4.5	120	13.6		
45	5.1	130	14.7		

Torque Conversion – Ft. Lbs. (Nm)

Ft. Lbs.	Nm	Ft. Lbs.	Nm	Ft. Lbs.	Nm
1	1.36	43	58.3	85	115.3
2	2.7	44	60.0	86	117.0
3	4.1	45	61.0	87	118.0
4	5.4	46	62.4	88	119.3
5	6.8	47	63.7	89	121.0
6	8.1	48	65.1	90	122.0
7	9.5	49	66.4	91	123.4
8	10.9	50	67.8	92	125.0
9	12.2	51	69.2	93	126.1
10	13.6	52	70.5	94	127.5
11	14.9	53	71.9	95	129.0
12	16.3	54	73.2	96	130.2
13	17.6	55	74.6	97	131.5
14	19.0	56	75.9	98	133.0
15	20.3	57	77.3	99	134.2
16	21.7	58	78.7	100	135.6
17	23.1	59	80.0	110	149.2
18	24.4	60	81.4	115	156.0
19	25.8	61	82.7	120	163.0
20	27.1	62	84.1	125	170.0
21	28.5	63	85.4	130	176.3
22	29.8	64	86.8	135	183.1
23	31.2	65	88.1	140	190.0
24	32.5	66	90.0	145	197.0
25	33.9	67	90.9	150	203.4
26	35.3	68	92.2	155	210.2
27	36.6	69	93.6	160	217.0
28	38.0	70	94.9	165	224.0
29	39.3	71	96.3	170	231.0
30	40.7	72	97.6	175	237.3
31	42.0	73	99.0	180	244.1
32	43.4	74	100.3	185	251.0
33	44.8	75	102.0	190	258.0
34	46.1	76	103.1	195	264.4
35	47.5	77	104.4	200	271.2
36	48.8	78	105.8	225	305.1
37	50.2	79	107.1	250	339.0
38	52.0	80	108.5	275	373.0
39	52.9	81	110.0	300	407.0
40	54.2	82	111.2	350	475.0
41	55.6	83	112.6	400	542.4
42	57.0	84	114.0		

Torque Conversion factors

To Convert	Into	Mulitply By
Inch Pounds	Foot Pounds	0.0835
Inch Pounds	Newton meters	0.1130
Inch Pounds	Kg-meters	0.0115
Inch Pounds	Kg-Cm	1.1519
Foot Pounds	Inch Pounds	12.000
Foot Pounds	Newton meters	1.3560
Foot Pounds	Kg-meters	0.1382
Foot Pounds	Kg-Cm	13.8240
Newton Meters	Inch Pounds	8.8440
Newton Meters	Foot Pounds	0.7370
Newton Meters	Kg-meters	0.1020
Newton Meters	Kg-Cm	10.2000
Kg meters	Inch Pounds	86.8100
Kg meters	Foot Pounds	7.2340
Kg meters	Newton-meters	9.8040
Kg Cm	Inch Pounds	0.8681
Kg Cm	Foot Pounds	0.0723
Kg Cm	Newton-meters	0.0980

Miscellaneous Conversion Factors

To Convert	Into	Mulitply By
Inches	Millimeters	25.4000
Millimeters	Inches	0.0394
Pounds	Kilograms	0.4536
Kilograms	Pounds	2.2050
psi	bar	0.069
bar	psi	14.5

Air Pressure Conversion

PSI	kPa*	Bar**
85	586	5.9
90	620	6.2
95	655	6.6
100	690	6.9
125	860	8.6

* Preferred: Approximate to the nearest 5 kPa.
** Approximate to the nearest 0.5 Bar.

The Total Solution

The total solution from Cooper Power Tools includes not only a complete line of quality industrial tools and accessories but also a professional engineering and product support staff to help customize each tool to specific application requirements. All are as close as a telephone or e-mail.

Cooper Power Tools maintains company-owned Service Centers in strategic locations throughout the world, staffed with professional tool repair technicians who use genuine Cooper Power Tools parts and who are outfitted with the very latest in testing, calibration and inspection equipment. Each tool that is returned to a customer from one of our Service Centers carries with it a warranty that is Cooper Power Tools' assurance that it will perform just like it did when it was purchased new.

Our support personnel are fully capable of helping to diagnose problems and promptly recommend solutions.

Our complete line of tools are carefully designed and built from the finest materials available in order to provide years of trouble free service. But, as with any piece of equipment, service problems can occur. All tools are designed to be easy to service ... that is, of course, with properly trained personnnel.

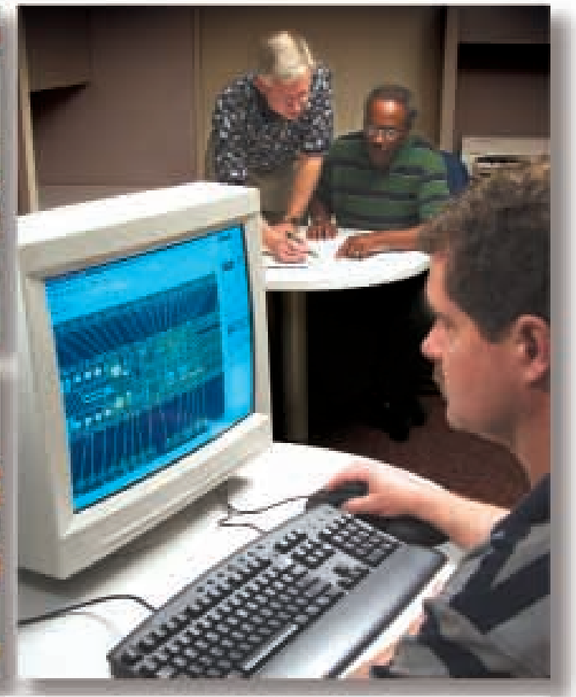
To facilitate quick repairs, and limit downtime ...

TRAINING

Cooper Power Tools conducts training seminars covering all aspects of every tool we make.

Introductory training seminars are designed to fully acquaint students with the entire line of tools and their fundamental operation. Advanced training seminars, which are often tailored to individual needs, are designed to hone the skills of the experienced student. Hands-on experience, with an emphasis on troubleshooting and repairing, are the focus of this training.

Service literature, product information, brand catalogs and FAQs are also available around the clock on the Web. Just access ***www.cooperpowertools.com*** for the latest information available about any of our products and services.



Note: All locations may not service all products. Please contact the nearest Sales & Service Center for the appropriate facility to handle your service requirements.

Dallas, TX

Cooper Power Tools
Sales & Service Center
1470 Post & Paddock
Grand Prairie, TX 75050
Tel: (972) 641-9563
Fax: (972) 641-9674

Detroit, MI

Cooper Power Tools
Sales & Service Center
4121 North Atlantic Blvd.
Auburn Hills, MI 48326
Tel: (248) 391-3700
Fax: (248) 391-6295

Houston, TX

Cooper Power Tools
Sales & Service Center
6550 West Sam Houston
Parkway North, Suite 200
Houston, TX 77041
Tel: (713) 849-2364
Fax: (713) 849-2047

Lexington, SC

Cooper Power Tools
670 Industrial Drive
Lexington, SC 29072
Tel: (800) 845-5629
Tel: (803) 359-1200
Fax: (803) 359-0822

Brazil

Cooper Tools Industrial Ltda.
Av. Liberdade, 4055
Zona Industrial - Iporanga
18087-170 Sorocaba, SP Brazil
Tel: (011) 55 15 238 3929
Fax: (011) 55 15 228 3260

Canada

Cooper Power Tools
Sales & Service Center
5925 McLaughlin Road
Mississauga, Ont. L5R 1B8
Canada
Tel: (905) 501-4785
Fax: (905) 501-4786

China

Cooper (China) Co., Ltd.
18th Floor Yu An Building
738 Dongfang Road
Pudong, Shanghai 200122
China
Tel: 011 8621 5111 5300
Fax: 011 8621 5111 8446

France

Cooper Power Tools SAS
Recoules Operation
Zone Industrielle
BP 28
Avenue Maurice Chevalier
77831 Ozoir-la-Ferrière Cedex
France
Tel: (011) 33 1 64 43 22 00
Fax: (011) 33 1 64 40 17 17

Germany

Cooper Power Tools
GmbH & Co.
Postfach 30
D-73461 Westhausen
Tel: +49 (0) 73 63-8 10
Fax: +49 (0) 73 63-8 12 22

Mexico

Cooper Power Tools
de México S.A. de C.V.
Libramiento La Joya No. 1
Bodega No. 2
Esq. Politécnico, Barrio San José
Cuautitlán, Edo de México C.P. 54870
Phone: (011) 525 5899 9510
Fax: (011) 525 5870 5012

Cooper Power Tools Is On The Web!

Cooper Power Tools provides a complete resource for power tools on-line. Our website ***www.cooperpowertools.com*** offers product information, service literature, brand catalogs, press releases and more. A dominant source of information, the Cooper Power Tools' website is your source for application solutions on-line.

Making your job easier is our goal!

You can access service literature anytime. Choose a category such as Assembly Tools or Material Removal Tools from the main menu and then click on the brand you're looking for. You'll be on your way to any current service literature you need, whether it's Cleco, Apex, Master Power, or any of our power tool brands.

Up-to-date product catalogs are also available online providing you with current information on our broad product line. Even Material Safety Data Sheets (M.S.D.S.) for Safety and Disposal Information are available on our website.

It's simple!

Our *Customer Service* section provides you with information such as answers to frequently asked questions or contact phone numbers and addresses for your area of the country. You can learn more about Cooper Power Tools in the *About Us* section or browse through the *What's New* information to learn how Cooper Power Tools continues to be your source for solutions.

For even faster searches, you can go direct to a brand site by simply entering the brand name. Entering ***www.clecotools.com*** takes you directly to the Cleco brand site.

What is the future of ***www.cooperpowertools.com***? A dynamic site continuing to focus on your need for up-to-date information on the latest Cooper Power Tools' offerings that you can access anytime you need...twenty-four hours a day, seven days a week!

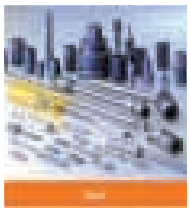
Order Catalogs & Literature On-Line

One of the broadest range of tools in the world is at your fingertips!

Cooper Power Tools covers a wide range of industrial markets, including aerospace, automotive, foundries, furniture, general industry, metal fabrication, petroleum, power generation, shipbuilding, and transportation. These markets have been served by Cooper Power Tools' brands for many decades, by offering our customers solutions and products that meet their demanding productivity requirements.

To receive a product catalog quickly, just go to ***www.cooperpowertoolscatalogs.com***. Select the literature or software you want. Then complete the "Contact Information" form, hit "Submit Request" and your order will be processed immediately. Materials normally arrive within 48 hours.

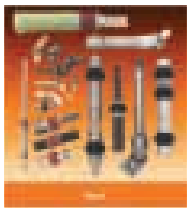
Here are a few of our most popular product catalogs



Apex Fastener Tools
A comprehensive line of industrial quality bits, finders, sockets and extensions.
(Catalog # TC-100)
www.apex-tools.com

Dotco Material Removal Tools
A full line of pneumatic material removal tools including drills, sanders, and grinders.
(Catalog # SP-102)
www.dotco-tools.com

Gardner-Denver Air Hoists
A broad line of quality pneumatic hoists for industrial applications.
(Catalog # SP-103)
www.gardnerdenvertools.com



Apex Universal Joints
Industrial quality universal joints that can be custom designed for most any application.
(Catalog # SP-1400)
www.apexuniversal.com

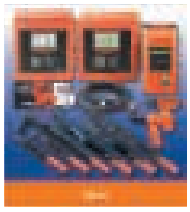
Buckeye • Dotco • Gardner-Denver Power Motors
A comprehensive line of industrial pneumatic motors for a multitude of applications.
(Catalog # SP-104)
www.buckeye-tools.com

Master Power Industrial Air Tools
A complete line of industrial pneumatic tools for assembly and material removal applications.
(Catalog # SP-904)
www.masterpowertools.com

Cleco Pneumatic Assembly Tools
A full line of industrial pneumatic assembly tools from screwdrivers to nutrunners to impacts.
(Catalog # SP-1000)
www.clecotools.com

Buckeye Fixtured Drills
An extensive line of industrial pneumatic fixtured drills.
(Catalog # SP-105)
www.buckeye-tools.com

Utica Torque Products
A full line of torque measuring products including torque screwdrivers, torque wrenches and analyzers.
(Catalog # SP-301)
www.uticatools.com



Cleco D.C. Electric Assembly Tools
A complete line of industrial D.C. electric assembly tools and controllers.
(Catalog # SP-105)
www.clecotools.com

Airetool Tube Cleaners & Expanders
A complete line of industrial tube cleaners, expanders and installation tools.
(Catalog # SP-1100)
www.airetools.com

COOPER PowerTools

Cooper Power Tools
P.O. Box 1410
Lexington, SC 29071-1410
USA
Phone: 803-359-1200
Fax: 803-808-6735

Cooper Power Tools
5925 McLaughlin Road
Mississauga, Ontario
Canada L5R 1B8
Phone: (905) 501-4785
Fax: (905) 501-4786

Cooper Power Tools
de México S.A. de C.V.
Libramiento La Joya No. 1
Bodega No. 2
Esq. Politécnico
Barrio San José
Cuautitlán, Edo de México
C.P. 54870
Phone: (011) 525 5899 9510
Fax: (011) 525 5870 5012

Cooper Tools Industrial Ltda.
Av. Liberdade, 4055
Zona Industrial - Iporanga
18087-170 Sorocaba, SP
Brazil
Tel: +55-15-3238-3929
Fax: +55-15-228-3260

Cooper Power Tools SAS
Zone industrielle – B.P. 28
77831 Ozoir-la-Ferrière Cedex
France
Téléphone: +33-1-6443-2200
Téléfax: +33-1-6440-1717

DGD/Automated Systems
Postfach 30
D-73461 Westhausen
Germany
Phone: +49-7363-810
Fax: +49-7363-81222

Cooper Tools Hungária Kft.
Berkenyefa sor 7
H-9027 Györ
Hungary
Tel: +36 96 505 300
Fax: +36 96 505 301

Cooper (China) Co., Ltd.
18th Floor Yu An Building
738 Dongfang Road
Pudong, Shanghai 200122
China
Phone: +86 21 5831 6805
Fax: +86 21 5831 6762

Visit us online at www.clecotools.com

MARCH 2005

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. © 2005 COOPER INDUSTRIES, INC. SP-1000-EN 0305 15M